

Combined Author Index

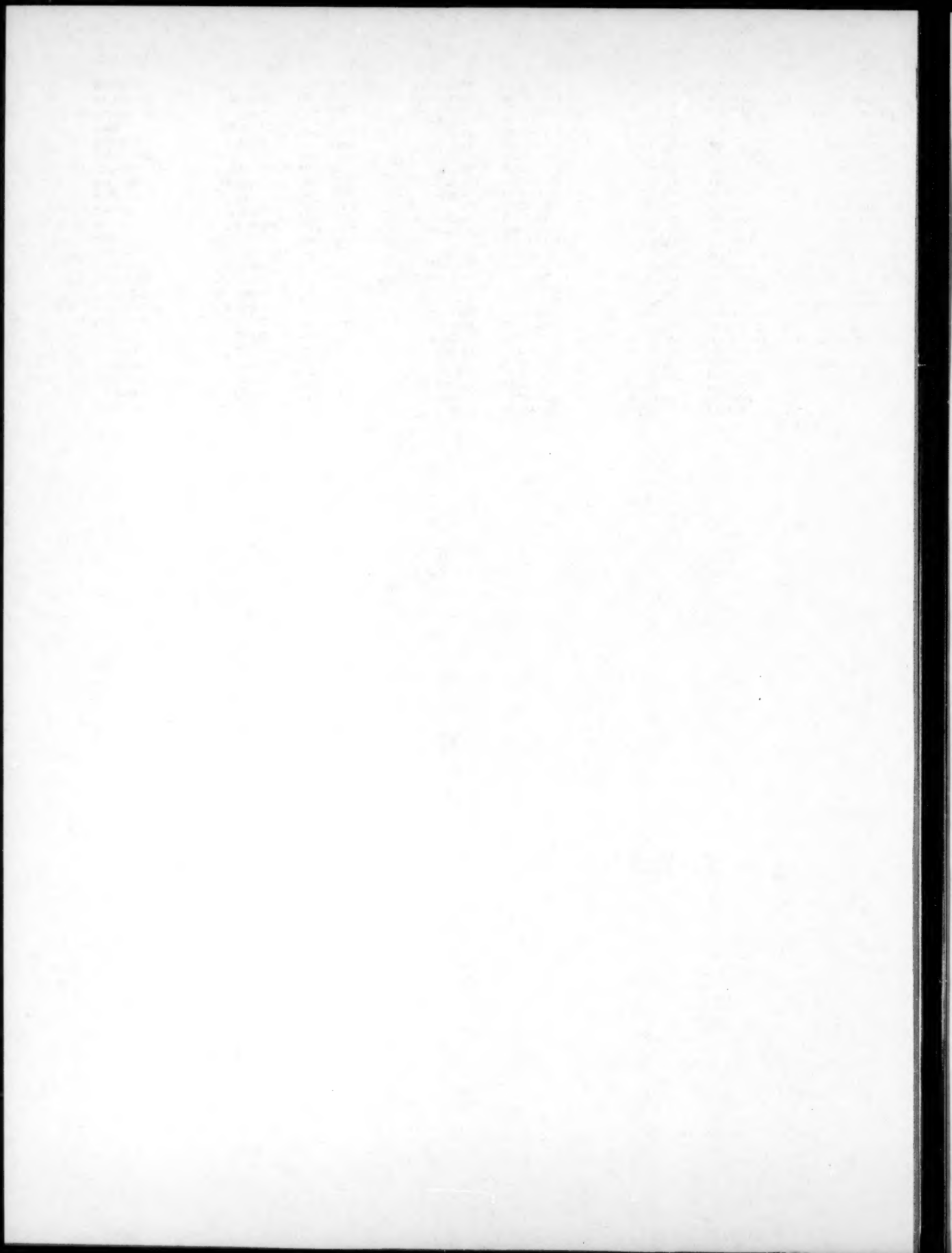
- Abbaschian, R. 4049-4059A
 Abe, T. 1585-1594A
 Abraham, D.P. 2151-2159A
 Abulwafa, H. 993-997B
 Acoff, V.L. 2692-2703A
 Aermoudt, E. 2347-2358A
 Agarwal, A. 2985-2993A
 Agren, J. 1073-1080A
 Ahn, C.C. 2934-2946A
 Ahn, S. 3881-3891A
 Ajersch, F. 993-997B
 Akselsen, O.M. 3630-3638A
 Albarra, J.L. 3601-3611A
 Albers, M. 3569-3575A
 Ali, A. 1141-1147A
 Alonso, M. 801-807B
 Alpas, A.T. 3135-3148A
 Altunoglu, A.K. 2495-2503A
 Altynova, M. 1837-1844A
 Alvarez, L.F. 1799-1805A
 Ananthasivan, K. 1919-1924A
 Anderson, K.R. 1217-1227A
 Andrews, S. 2023-2034A
 Ankem, S. 2366-2373A
 Anthonysamy, S. 1919-1924A
 Antla, D.P. 1127-1132A
 Anton, D.L. 3007-3018A
 Araki, H. 1807-1814A
 Ardell, A.J. 2888-2896A
 Arjuna Rao, A. 791-800A
 Arberg, L. 2305-2313A
 Arsenault, R.J. 995-1001A
 Arvanitidis, I. 409-416B
 Arya, V.K. 3279-3291A
 Asaro, R.J. 81-99A
 Asundi, M.K. 757-781A
 Atrous, A. 2686-2691A
 Avery, S. 773-779B
 Avramovic-Cingara, G. 3478-3490A
 Ayensu, A. 901-907A
 Ayer, R. 2510-2517A
 Aziz, M.J. 671-686A
 725-730A
 Babu, S.S. 763-774A
 Badrinarayana, K. 3781-3792A
 Baek, E.-R. 3335-3340A
 3881-3891A
 Bahr, D.F. 3793-3800A
 Baik, W.-H. 3120-3125A
 Baker, T.N. 4039-4047A
 Balasubramaniam, R. 2985-2993A
 3993-4002A
 4003-4010A
 Balch, D.K. 3700-3717A
 Balzer, M. 3066-3073A
 Banerjee, D. 2593-2604A
 Banerjee, R. 2047-2050A
 Barbante, G.G. 3187-3191A
 Barker, J. 923-928A
 Barrett, C.A. 3279-3291A
 Bartholomew, M.F. 127-134A
 Bartlett, R.W. 2086-2093A
 Bate, P.S. 3250-3258A
 3747-3748A
 Bay, F. 81-99B
 Beckermann, C. 2754-2764A
 2765-2783A
 2784-2795A
 81-99B
 Bellet, M. 3576-3590A
 Bender, W. 2470-2478A
 Bennett, C.G. 3530-3541A
 Berns, H. 1845-1859A
 Bewlay, B.P. 3801-3808A
 Bhaduri, A. 3718-3726A
 Bhanu Sankara Rao, K. 255-267A
 851-861A
 Bhargava, S. 2985-2993A
 Bhattacharyya, A. 2359-2365A
 Bhattacharyya, P.K. 139-141B
 Bieermann, H. 1003-1014A
 Bilger, P. 1823-1835A
 Biswas, S. 5-17A
 71-79A
 Bitler, W.R. 146-148B
 Blackwell, P.L. 3747-3748A
 Blakely, J. 2057-2061A
 Blake, B.C. 555-566B
 Blue, C.A. 4011-4018A
 Blue, R.A. 4011-4018A
 Boettinger, W.J. 657-669A
 Boisson, M. 2904-2910A
 Bolvin, J.-A. 322-325B
 Bonnet, C. 371-379A
 Bordia, R. 839-849A
 Borgenstam, A. 1499-1510A
 Bouchard, D. 101-113B
 Bourke, M.A.M. 2820-2836A
 Bracco, P. 371-379A
 Braithwaite, N.St.J. 2495-2503A
 Bray, D.W. 3362-3370A
 3371-3380A
 Brimacombe, J.K. 163-175B
 4095-4111A
 4113-4120A
 271-276B
 Bronson, A. 1217-1227A
 Broyles, S.E. 269-279A
 Buchheit, T.E. 297-304B
 Bul, R.T. 1015-1023B
 371-379A
 Buisson, L. 2383-2385A
 Byrne, J.G. 1431-1440A
 Cahn, J.W. 4121-4132A
 Cantor, B. 979-986B
 Cardinale, A.M. 1431-1440A
 Carter, W.C. 3259-3266A
 Caruana, G. 231-239B
 Castello-Branco, M.A.S.C. 4205-4210A
 Catalina, A.V. 2916-2922A
 Cerri, E. 3871-3879A
 791-800A
 Chakraborty, M. 4213-4216A
 Chakravorty, D. 3466-3472A
 Chan, J.W. 2518-2531A
 Chan, K.S. 2540-2556A
 3007-3018A
 Chandramouli, V. 1919-1924A
 Chang, S. 2708-2721A
 Chang, Y. 3162-3169A
 Chao, C.-G. 2005-2012A
 Chao, C.G. 809-818A
 Chao, J. 3609-3616A
 Charette, A. 297-304B
 Chatterjee, S.K. 503-505A
 Chattopadhyay, K. 2053-2057A
 Chattopadhyay, S.K. 503-505A
 Chaturvedi, M.C. 785-790A
 Chen, G. 1676-1682A
 Chen, H. 2429-2435A
 Chen, H.S. 745-756B
 Chen, J.H. 1909-1917A
 Chen, J.K. 1676-1682A
 Chen, L.H. 1683-1686A
 Chen, M.C. 1683-1686A
 Chen, R. 3662-3668A
 29-40A
 3391-3398A
 2722-2726A
 1379-1394A
 Chen, S.-W. 2994-3006A
 Chen, S.H. 2923-2933A
 Chen, T.T. 567-576B
 Chen, W.-C. 4113-4120A
 Chen, W.C. 4095-4111A
 Chen, X. 4031-4038A
 Cheng, X. 393-398B
 610-616B
 Chenot, J.-L. 81-99B
 Chemov, A.A. 687-694A
 Chihara, T. 765-772B
 Chi, H. 3817-3825A
 Cho, S.S. 315-318B
 Choi, B.S. 1273-1281A
 Choi, C.S. 923-928A
 Chokshi, A.H. 2532-2539A
 Choo, S.-H. 3335-3340A
 3881-3891A
 Chopra, H.D. 1687-1692A
 Chou, M.-C. 2005-2012A
 Chou, Y.T. 3473-3477A
 Choubey, R. 431-440A
 Chrysanthou, A. 827-838B
 Chu, Y.C. 165-182A
 Chuang, T.H. 2617-2627A
 2653-2662A
 315-318B
 29-34B
 Chung, T.-W. 1476-1488A
 Clapp, P.C. 322-325B
 Claveau, A. 3043-3058A
 Clavel, M. 119-127B
 Cockcroft, S.L. 129-137B
 Colvin, D.J. 1554-1568A
 Combeau, H. 2314-2327A
 Coriell, S.R. 687-694A
 Cortie, M.B. 2436-2444A
 Courtney, T.H. 1991-1997A
 1999-2004A
 889-894B
 717-730B
 Cox, A. 59-69A
 Cramb, A.W. 2221-2228A
 Cserhati, C. 801-808A
 Cui, Y.Y. 3649-3661A
 Current, P.A. 891-900A
 Czerwinski, F. 1837-1844A
 Dahle, A.K. 2305-2313A
 Damodaran, A.D. 1283-1292A
 Dantzig, J.A. 707-717A
 Dao, M. 81-99A
 Darolia, R. 1229-1240A
 Das, S. 1618-1629A
 Datta, A. 4213-4216A
 Datta, S.K. 3669-3674A
 David, S. 763-774A
 Davidson, D.L. 2540-2556A
 3007-3018A
 Davies, C.H.J. 4095-4111A
 4113-4120A
 Davignon, G. 3357-3361A
 Davis, C.L. 3019-3029A
 Davis, S.H. 583-593A
 Dayal, R.K. 2881-2887A
 Dayananda, M.A. 2504-2509A
 de Gregorio, P. 3773-3780A
 de Groh, H.C., III 1095-1110A
 De Schutter, F. 794-800B
 DeArdo, A.J. 951-960A
 Debroy, T. 43-50B
 2105-2114A
 Decultieux, F. 81-99B
 Dekeyser, J.C. 794-800B
 Delfino, S. 979-986B
 Demestral, B. 879-890A
 Demopoulos, G.P. 577-584B
 585-594B
 1333-1346A
 Dengel, D. 686-689B
 Derebail, R. 695-705A
 Desbordes, J.-L. 839-845B
 Deura, T.N. 3259-3266A
 Diaz, C. 305-314B
 Diedrichs, R. 487-489A
 DiMelfi, R.J. 1642-1654A
 Dimdik, D.M. 3903-3912A
 71-79B
 Ding, B.Z. 5-17B
 Ding, W. 241-253B
 Divakar, M. 3126-3134A
 Doan, R. 3126-3134A
 Dogan, C. 363-374B
 Donald, J.R. 577-584B
 Drew, R.A.L. 585-594B
 2314-2327A
 3214-3225A
 1073-1080A
 Du, H. 2978-2984A
 Du, S. 3963-3970A
 Dubois, M. 1403-1405A
 Dudek, H.J. 3318-3329A
 1823-1835A
 Dulcy, J. 183-191A
 Dunand, D.C. 183-203A
 2820-2836A
 DuPont, J.N. 481-489B
 Durrant, G. 3612-3620A
 Dutrizac, J.E. 4121-4132A
 Dwarsakadasa, E.S. 567-576B
 1283-1292A
 Earthman, J.C. 863-872A
 Eckert, J. 2934-2946A
 Eggeler, G. 879-890A
 Eissa, M.M. 1693-1699A
 Ekstrand, M.E. 1676-1682A
 El-Bealy, M. 689-693B
 999-1014B
 El-Eskandarany, M.S. 2374-2382A
 4210-4213A
 747-758A
 El-Magd, E. 775-783A
 Elmer, J.W. 1489-1498A
 Enomoto, M. 3809-3816A
 Escudero, M.L. 2727-2739A
 Esheleman, M. 3181-3186A
 Eustathopoulos, N. 2916-2922A
 Evangelista, E. 3871-3879A
 Evans, J.W. 19-27B
 Ewsuk, K.G. 2100-2104A
 2122-2129A
 4193-4204A
 Eylon, D. 2100-2104A
 2122-2129A
 Fahrenholtz, W.G. 2160-2177A
 Fall, I. 1533-1543A
 Fang, H.-S. 747-756A
 Farag, M. 2140-2150A
 Farber, L. 911-920B
 Farouk, B. 3381-3390A
 Faulkner, R.G. 3043-3058A
 Feaugas, X. 2045-2046A
 Fedotov, V.G. 255-261B
 Feliner, P. 1773-1778A
 Fernandez Navarro, J.M. 379-384B
 Ferro, R. 979-986B
 Fields, R.J. 923-928A
 Fine, M.E. 1267-1271A
 2397-2418A
 Fitzgerald, T.J. 3700-3717A
 Flanagan, W.F. 819-821A
 Flemings, M.C. 595-609A
 663-668B
 3226-3240A
 3381-3390A
 Fleury, E. 829-837A
 Foley, R.P. 1845-1859A
 Forbes, K.R. 1229-1240A
 Fournelle, R.A. 1293-1302A
 Fraser, H.L. 2047-2050A
 Fray, D.J. 794-800B
 889-894B
 407-414A
 Fredriksson, H. 999-1014B
 Friedman, P.A. 1889-1898A
 3030-3042A
 3827-3839A
 2869-2880A
 775-783A
 41-48A
 Frisk, K. 717-730B
 Froba, M. 489-471A
 Froes, F.H. 846-851B
 Fruehan, R.J. 183-191A
 Fujii, Y. 193-203A
 Fukagawa, H. 929-935B
 Fukami-Ushiro, K.L. 4145-4151A
 Fukatsu, N. 3841-3851A
 Fukui, Y. 2934-2946A
 Fukuoka, C. 1047-1053A
 Fultz, B. 1630-1641A
 Funkenbusch, P.D. 363-369A
 Furuhashi, T. 1925-1931A
 Gale, W.F. 3621-3629A
 3491-3502A
 4121-4132A
 695-705A
 Gall, K. 2727-2739A
 Gallemeault, M. 2178-2186A
 Gandin, Ch.-A. 1823-1835A
 3391-3398A
 29-40A
 Gangli, P. 3391-3398A
 Gantolis, M. 29-40A
 Gao, M. 29-40A

Gao, Z.	2293-2296A	Han, K.N.	355-361B	Iswaran, C.V.	3524-3529A	Kim, J.	2574-2582A
García de Andrés, C.	1799-1805A	Hänninen, H.	1815-1821A	Itoh, G.	3957-3962A	Kim, N.J.	1241-1250A
García, C.I.	951-960A		2796-2808A	Iwase, M.	3081-3088A		3881-3891A
Garg, A.	3170-3180A	Hansen, G.	569-581A		375-378B	Kim, S.	1889-1898A
Garrett, R.K., Jr.	737-745A	Hansen, P.N.	4085-4093A		385-392B	Kim, S.B.	493-496A
Gasiot, W.	2419-2428A	Hanumanth, G.S.	663-671B		595-603B	Kim, Y.G.	493-496A
Gaskell, D.R.	139-141B	Hao, S.M.	2429-2435A	Izaki, M.	483-486A	King, J.E.	353-361A
	693-694B	Harlow, D.G.	3391-3398A	Jackman, J.A.	431-440A		363-369A
Gatica, J.E.	3669-3674A	Hashimoto, S.	317-326A	Jackson, M.R.	3801-3808A		3019-3029A
Gauthier, J.	1785-1798A	Hatta, T.	967-972B	Jacob, K.T.	647-651B	Kirkaldy, J.S.	101-113B
Gavriljuk, V.G.	1815-1821A	Hawbolt, E.B.	1544-1553A		1919-1924A		1606-1617A
Genin, J.-M.R.	2160-2177A		3399-3409A	Jacobus, K.	3066-3073A	Kishore, R.	757-761A
Gerberich, W.W.	3793-3800A		3410-3423A	Jakobson, A.	318-322B		3340-3343A
German, R.M.	441-450A		4095-4111A	Järviesträt, N.	501-508B	Kiviahiti, J.K.	59-69A
	901-909B		4113-4120A	Jeng, S.-C.	2722-2726A		2229-2238A
Ghosh, A.	3993-4002A	He, Z.	731-736A	Jeniski, R.A., Jr.	19-27A	Klaar, H.-J.	2285-2292A
	4003-4010A	Hegazy, M.M.	1693-1699A	Jha, A.	827-838B	Klam, H.-J.	879-890A
Ghosh, A.K.	1889-1898A	Hei, Z.	3417-1352A	Jiang, H.G.	71-79B	Kleff, J.	1845-1859A
	3030-3042A	Heimaier, M.	1361-3870A	Jiang, J.-Q.	3250-3258A	Kleppa, O.J.	417-422B
	3827-3839A	Helbert, A.L.	3043-3058A	Jiang, L.	2796-2808A	Kloc, L.	3871-3879A
Ghosh, A.K.	909-921A	Hellawell, A.	229-232A	Jiang, X.-G.	863-872A	Klug, R.C.	1963-1978A
Giannuzzi, L.A.	146-148B		569-581A	Jiao, Y.	1025-1029B	Ko, S.K.	315-318B
Gibelin, J.C.	1217-1227A	Hempenmacher, J.	1403-1405A	Jiménez, J.A.	1799-1805A	Kobayashi, S.	945-949A
Giumelli, A.	3399-3409A	Henager, C.H., Jr.	839-849A		1861-1867A	Kobayashi, T.	652-657B
Gjønnes, L.	2338-2346A	Henein, H.	1045-1056B	Jo, B.L.	490-493A		1979-1989A
Glass, S.J.	2122-2129A	Heo, N.-H.	1015-1020A	Johari, G.P.	2461-2469A		2013-2021A
Glatzel, U.	1229-1240A	Heo, N.H.	3059-3065A	John, R.	3074-3080A		3925-3935A
Gleeson, B.	3761-3772A	Heuzey, M.-C.	808-826B	Johnson, J.L.	441-450A	Kocaefe, D.	1015-1023B
Glicksman, M.E.	557-567A	Hillert, M.	480-483A		901-909B	Koczek, M.	2130-2139A
Gnanamoorthy, J.B.	1313-1325A		1499-1510A	Johnson, W.C.	1460-1475A	Koczek, M.J.	2140-2150A
	2881-2887A	Hilpert, K.	2673-2677A	Johnson, W.L.	2934-2946A	Kodentsov, A.A.	59-69A
Goetz, R.L.	1709-1720A		3569-3575A	Jonas, J.J.	155-164A		2229-2238A
	3903-3912A		3576-3590A		232-235A	Kohtoku, Y.	3307-3317A
Goldstein, J.I.	3192-3202A	Hines, A.L.	29-34B		1303-1312A	Komvopoulos, K.	381-390A
Goller, C.	3727-3738A	Hirai, T.	4210-4213A		1869-1876A	Konno, T.J.	4210-4213A
Gomankov, V.I.	2045-2046A	Hirth, J.P.	1489-1498A		1877-1887A	Koo, Y.	3149-3161A
González, J.	281-290A	Hiskey, J.B.	393-398B		2178-2186A	Kool, B.J.	1055-1061A
	291-304A		610-616B		2347-2358A		1063-1071A
González-Carrasco, J.L.	3259-3266A	Hives, J.	255-261B		3346-3348A	Koseki, T.	3226-3240A
	3809-3816A	Ho, N.-J.	2479-2494A	Jones, R.H.	3963-3970A	Koster, J.N.	686-689B
González-Doncel, G.	1861-1867A	Ho, S.	3241-3249A	Jong, S.-H.	839-849A	Koty, D.P.	3727-3738A
	2837-2842A	Honda, K.	2843-2851A	Jong-Leng, L.	1951-1962A	Koursaris, A.	287-296B
	3809-3816A	Hong, J.W.	1273-1281A	Jonsson, P.	633-646B	Koyama, T.	945-949A
Gooding, R.J.	1203-1216A	Hong, L.B.	2934-2946A	Jung, W.	2196-2208A	Krauss, G.	1554-1568A
Gopinathan, V.	3718-3726A	Hong, S.H.	493-496A	Justice, I.	51-55B		1569-1584A
Gotman, I.	2071-2079A	Hopkins, J.A.	477-480A	Kadioglu, Y.	486-490A		1845-1859A
	2130-2139A	Hort, W.	1460-1475A	Kagawa, Y.	3491-3502A	Kroupa, A.	1963-1978A
	2140-2150A	Hoshino, H.	375-378B	Kainuma, R.	2843-2851A	Krüger, J.	1149-1165A
	195-201B		595-603B		2187-2195A	Kuang, Z.	1031-1044B
Goulet, R.U.	3853-3860A	Hovland, R.	185-193B		2445-2453A	Kuehmann, C.J.	177-183B
Govier, D.	3126-3134A	Howe, J.M.	1618-1629A		4153-4162A	Kumar, S.G.	937-943A
Gray, G.T., III	459-465A		3362-3370A	Kakehi, K.	317-326A	Kuramoto, S.	1121-1126A
	2994-3006A	Howell, P.R.	3371-3380A	Kaliappan, I.	1919-1924A	Kuramato, S.	3081-3088A
	3739-3746A	Hsiao, Y.-H.	146-148B	Kanara, A.B.	2888-2896A	Kurnaga, T.	35-41B
Gray, N.B.	221-230B	Hsieh, Y.M.	891-900A	Kang, C.G.	277-285B	Kurita, N.	929-935B
	633-646B	Hsu, F.-Y.	245-253A	Kang, C.Y.	4019-4029A	Kurz, W.	625-634A
Grebe, H.A.	1749-1759A	Hsu, K.C.	2285-2292A	Kang, S.-J.L.	3120-3125A	Kuwata, M.	57-64B
Greenberg, R.R.	3682-3687A	Hu, C.	399-408B	Kannan, K.	2947-2957A	Kwon, Y.-G.	2557-2564A
Greer, A.L.	549-555A	Hu, X.	4039-4047A	Kanno, M.	3081-3088A	Kwon, D.	1241-1250A
Griffiths, J.R.	115-118B	Hu, Z.	1837-1844A	Kao, W.H.	1363-1370A		3893-3901A
Grong, Ø.	3630-3638A	Hu, Z.Q.	1025-1029B	Kapala, J.	2673-2677A	Kwon, H.	3343-3346A
Gross, T.S.	3853-3860A		71-79B	Kar, R.N.	351-354B	Lahiri, A.K.	695-697B
Grozda, J.R.	1217-1227A		2221-2228A	Karjalainen, L.P.	4031-4038A		757-764B
Gruzleski, J.E.	929-936A	Huang, J.C.	2479-2494A	Karlhuber, S.	921-927B	Lakshmikantha, M.G.	961-972A
Gu, N.	719-724A		2923-2933A	Karlsson, L.	2196-2208A	Lance, J.J.	3841-3851A
	3108-3111A		3095-3107A	Karma, A.	635-656A	Landry, K.	3181-3186A
Guan, H.	1327-1331A	Huang, W.	480-483A	Karwan-Baczewska, J.	2978-2984A	Langberg, D.E.	773-779B
Guan, Y.	3621-3629A		3591-3600A	Kashyap, B.P.	2274-2284A		780-787B
Guan, Y.C.	355-361B	Huang, X.	617-632B	Kath, D.	2673-2677A	Langdon, T.G.	873-878A
Gülpen, J.H.	59-69A		785-790A		3569-3575A		901-907A
Gundel, D.B.	2035-2043A	Huhtala, T.	2196-2208A	Kaufman, M.J.	819-821A		2532-2539A
Guo, Q.	417-422B	Hunt, J.D.	611-623A		3524-3529A		3871-3879A
Guo, S.Q.	2843-2851A	Hwang, K.S.	203-211B		3542-3557A	Larson, E.M.	775-783A
Gupta, D.	695-697B		245-253A		3957-3962A	Last, H.R.	737-745A
	757-764B	Hwang, N.M.	2809-2818A	Kaukler, W.F.	801-808A	Lavernia, E.J.	2115-2121A
Guthrie, R.I.L.	993-997B	Iaccoca, R.G.	145-153A	Kauppinen, V.	2796-2808A		3241-3249A
Gutiérrez-Solana, F.	281-290A	Ibáñez, J.	3809-3816A	Kawakami, N.	3925-3935A	Lee, B.J.	81-99A
	291-304A	Iguchi, M.	35-41B	Kayser, W.A.	1700-1708A	Lee, D.N.	955-966B
	2071-2079A		765-772B	Ke, W.	1327-1331A	Lee, H.-C.	1015-1020A
Gutmanas, E.Y.	2130-2139A	Ilegbusi, O.J.	35-41B	Kestens, L.	155-164A	Lee, H.C.	3149-3161A
	2140-2150A	Ioku, S.	1668-1675A		2178-2186A	Lee, H.M.	3466-3472A
	493-496A	Irie, K.	929-935B		2347-2358A	Lee, J.-H.	1749-1759A
Haeberle, R.M.	241-253B	Irons, G.A.	195-201B		1333-1346A	Lee, J.H.	3343-3346A
Hajra, J.P.	255-267A		663-671B	Khani, M.K.	1313-1325A	Lee, J.K.	1449-1459A
Halford, G.R.	851-861A	Ishida, A.	3753-3759A	Khatak, H.S.	3074-3080A	Lee, J.M.	1273-1281A
	3279-3291A	Ishida, K.	2187-2195A	Kikuchi, A.	2297-2304A	Lee, K.N.	3279-3291A
	1517-1532A		2445-2453A		469-471A	Lee, K.R.	423-431B
Hall, M.G.	471-476A		4153-4162A	Kim, C.	1889-1898A	Lee, L.B.	3343-3346A
Hamano, R.	2947-2957A	Ishida, Y.	3925-3935A	Kim, C.K.	3203-3213A	Lee, M.S.	213-219B
Hamilton, C.H.	433-443B	Ishii, H.	2653-2662A	Kim, C.M.	3343-3346A	Lee, S.	1241-1250A
Hampel, F.G.	491-500B	Ishikuro, M.	4210-4213A	Kim, D.-Y.	51-55B		3149-3161A
Hampikian, J.M.		Isono, N.	725-730A	Kim, H.-J.	2557-2564A		3335-3340A

Lei, T.C.	3881-3891A	Mathews, C.K.	1919-1924A	Nagamori, M.	322-325B	Park, J.	2151-2159A
Lesuer, D.R.	3893-3901A	Mathews, S.A.	2858-2860A	Nagarathnam, K.	381-390A	Park, J.S.	498-498A
	391-400A	Matlock, C.A.	698-701B	Nakai, H.	658-662B		2328-2337A
	111-118A	Matlock, D.K.	1251-1266A	Nagumo, M.	469-471A		2740-2753A
	343-352A		1963-1978A		2574-2582A	Park, L.J.	493-496A
Leucht, R.	1403-1405A	Matson, D.M.	863-868B	Nagy, A.	987-992B	Park, S.-H.	1241-1250A
Levallant, C.	81-99B	Matsuda, A.	1363-1370A	Nakagawa, Y.G.	3841-3851A	Park, S.W.	51-55B
Lewandowski, J.J.	3292-3306A	Matsuyama, Y.	3925-3935A	Nakai, H.	929-935B	Park, Y.J.	2809-2819A
	3937-3947A	Maurice, D.	1991-1997A	Nakanishi, N.	719-724A	Paro, J.	2796-2808A
Leyens, C.	1700-1708A		1999-2004A	Nakano, H.	4153-4162A	Pascheto, W.	2461-2469A
Li, B.J.	809-818A	Maziasz, P.J.	1655-1667A	Nakatsuka, T.	1807-1814A	Pascual, L.	379-384B
Li, C.	2293-2296A	Mazumdar, D.	704-708B	Nam, S.W.	490-493A	Patwardhan, A.K.	3513-3523A
Li, C.M.	1533-1543A	McCay, M.H.	477-480A		1273-1281A	Paul, R.L.	3682-3687A
Li, C.X.	1533-1543A	McCay, T.D.	477-480A		1761-1771A	Pedersen, A.S.	4085-4093A
Li, D.	2221-2228A	McClung, R.C.	2540-2556A	Namjoshi, S.	2436-2444A	Pehike, R.D.	745-756B
Li, G.	509-525B	McDavid, R.M.	672-685B	Nana, S.	2454-2460A		852-862B
Li, J.B.	3662-3668A	McDeavitt, S.M.	2151-2159A	Naohara, T.	3424-3430A	Pei, Y.T.	391-400A
Li, Q.C.	2221-2228A	McFadden, G.B.	687-694A	Narayana, K.L.	351-354B	Pelton, A.D.	808-826B
Li, S.	135-143A	McGuire, S.M.	1267-1271A	Nastac, L.	4061-4074A	Peña, M.	271-276B
Li, Y.	467-469A	McKelvey, A.L.	2704-2707A		4075-4083A	Peng, G.-J.	2923-2933A
Li, Y.Z.	3473-3477A		3781-3792A	Neale, K.W.	232-235A	Peng, H.	3108-3111A
Liang, J.	2293-2296A	McMahon, M.E.	2252-2262A	Nemat-Nasser, S.	1739-1748A	Peng, Z.	41-48A
Lichter, B.D.	819-821A	McNelly, T.R.	2252-2262A	Nes, E.	4133-4144A	Perepezo, J.H.	509-824A
Lieblch, M.	3259-3266A	McNulty, J.C.	1899-1907A	Nethercott, R.B.	5530-3541A		533-547A
Lin, H.K.	157-162B	McQueen, H.J.	3478-3490A	Nicholas, T.	2239-2251A		1618-1629A
Lin, R.Y.	527-532B	Meadowcroft, T.R.	3399-3409A	Nicolaou, P.D.	1709-1720A	Perkins, C.A.	1251-1266A
	1379-1394A	Menai, M.	81-99B		3112-3119A	Perovic, D.D.	3478-3490A
Lindahl, K.A.	4011-4018A	Mendelsohn, D.A.	3853-3860A		3675-3681A		4019-4029A
Lindholm, M.	2958-2965A	Mendratia, M.G.	2583-2592A	Nicolini, G.	747-756A	Peter, S.	297-304B
Lindroos, V.K.	2897-2903A		3903-3912A	Niinomi, M.	3925-3935A	Peters, M.	1700-1708A
	4171-4181A	Meng, L.	3089-3094A	Nilles, P.E.	541-553B	Pickard, S.M.	909-921A
Lindstrom, R.M.	4183-4191A	Menon, E.S.K.	1642-1654A	Nilmani, M.	773-779B	Pickles, C.A.	363-374B
Lipsitt, H.A.	3682-3687A	Meyer, W.W.	325-327B		780-787B	Pigrova, G.D.	498-502A
Liu, C.T.	3801-3808A	Meyers, M.A.		Nilsson, J.-O.	327-341A	Pillai, U.T.S.	995-1001A
Liu, G.	3473-3477A	Michaud, V.J.	3700-3717A		2196-2208A		1283-1292A
Liu, Q.	213-219A	Miki, T.	937-941B	Niou, C.-S.	1773-1778A	Pilling, J.	229-232A
Liu, Q.	1025-1029B	Mikula, A.	921-927B	Nishida, Y.	4163-4169A	Pirttihaio, L.	2057-2061A
Liu, S.	1327-1331A	Millitzer, M.	1544-1553A	Nix, W.D.	1033-1041A	Pirwitz, F.	2285-2292A
Liu, W.	2293-2296A		3399-3409A	Noebe, R.D.	1229-1240A	Pollock, T.M.	1081-1094A
Liu, W.-P.	1951-1962A	Miller, M.K.	763-774A		2628-2641A	Ponce, J.	2023-2034A
	3558-3568A	Minamoto, Y.	1807-1814A		3170-3180A	Potocnik, V.	297-304B
Liu, X.J.	2429-2435A	Miodownik, A.P.	3718-3726A		3542-3557A	Potter, D.I.	491-500B
Liu, Z.	407-414A	Miracle, D.B.	2035-2043A	Nohmi, S.	1021-1031A		981-993A
Liu, Z.B.	895-900B		2583-2592A	Nomura, K.	3753-3759A	Poza, P.	486-490A
Liu, Z.T.	2904-2910A	Mishra, R.S.	305-316A	Norring, K.	327-341A	Pradhan, S.K.	4213-4216A
Llorca, J.	486-490A	Mitra, S.	3913-3923A	North, T.H.	4019-4029A	Prasad, B.K.	3513-3523A
Lloyd, D.J.	4113-4120A	Mittelmeyer, E.J.	1055-1061A	Nourbakhsh, S.	451-458A	Prasad, S.	465-478B
Loehman, R.E.	2100-2104A		1063-1071A	O'Handley, R.C.	3203-3213A	Prasad, Y.V.R.K.	119-126A
	2122-2129A		3445-3465A	Oda, Y.	3307-3317A		235-236A
Lombard, C.M.	3112-3119A	Miyamoto, S.	929-935B	Oh, C.-S.	955-966B		2593-2604A
Longton, R.J.	567-576B	Miyamoto, Y.	1807-1814A	Ohashi, T.	929-935B	Prikryl, M.	1149-1165A
López, F.A.	379-384B	Miyazaki, S.	3753-3759A	Ohmori, M.	401-405A	Prisbrey, K.A.	2086-2093A
	801-807B	Miyazaki, T.	945-949A	Ohta, H.	283-270B	Privett, H.M., III	3682-3687A
López, H.F.	3601-3611A	Mo, A.	2314-2327A	Ohtani, H.	943-953B	Qian, B.	4031-4038A
López-Deigado, A.	379-384B	Mogilvesky, P. DLR	2071-2079A	Ohtani, H.	2445-2453A	Qian, F.	911-920B
Lou, B.Y.	3095-3107A	Mohamed, F.A.	863-872A	Oishi, T.	2574-2582A	Qian, L.	3949-3956A
Lu, J.	2565-2573A	Mohan, S.	1057-1060B	Okabe, T.H.	839-845B	Qiao, Z.	3949-3956A
Lu, S.-Z.	611-623A	Montemayor-Aldrete, J.	3330-3335A	Okazaki, M.	839-845B	Queensel, D.J.	973-978B
Lu, S.Z.	569-581A	Morita, K.	232-235A	Olefsky, F.	1021-1031A	Raabe, D.	1047-1053A
Lu, W.-K.	195-201B		3346-3348A	Olsen, A.	2071-2079A	Rado, C.	49-57A
Lui, T.S.	1683-1686A	Morgan, G.J.	163-175B	Olsen, S.E.	604-609B	Raghuvaran, V.	3181-3186A
Lum, J.W.	863-868B	Morita, K.	652-657B	Olson, D.L.	5-17B	Raghuvaran, V.	1127-1132A
Luo, Z.P.	1779-1784A		846-851B	Omi, T.	2958-2965A	Raghuvaran, V.S.	3601-3611A
Lynch, S.P.	3530-3541A		937-941B	Omori, M.	483-486A		1175-1186A
Lytle, M.T.	3503-3512A	Morita, Z.-I.	35-41B	Oono, H.	4210-4213A		2966-2977A
Ma, Y.	873-878A		765-772B	Oono, K.	846-851B	Ramachandra, C.	1167-1173A
Macció, D.	979-986B	Morris, J.W., Jr.	1187-1201A	Orel, S.V.	839-845B	Ramakrishnan, P.	3718-3726A
Machmeier, P.M.	2510-2517A		3466-3472A	Ørslund, R.	1925-1931A	Ramanujan, R.V.	1655-1667A
Mackenbrock, A.	869-879B	Mortensen, A.	595-609A	Osman, T.M.	4133-4144A	Ramos, C.	271-276B
Mahajan, Y.R.	305-316A		3700-3717A	Osman, T.M.	3937-3947A	Ranganath, S.	237-240A
Majumdar, B.	2053-2057A	Moser, Z.	2419-2428A	Özyang, J.H.	391-400A	Ranganathan, S.	2966-2977A
Majumdar, B.S.	2035-2043A	Moss, S.J.	829-837A	Özgeçli, M.L.	1033-1041A	Rao, G.M.	1057-1060B
Maki, T.	1630-1641A	Mudali, U.K.	2881-2887A	Overfelt, R.A.	698-701B	Rao, J.G.	2366-2373A
Malakondaiah, G.	2239-2251A	Mughrabi, H.	1003-1014A	Ozbayraktar, S.	287-296B	Rao, P.R.V.	1919-1924A
Malik, M.K.	2274-2284A	Mukunthan, K.	3410-3423A	Pagounis, E.	4171-4181A	Rappaz, M.	695-705A
Mannan, S.L.	119-126A	Mulazimoglu, M.H.	929-936A		4183-4191A		2314-2327A
Manory, R.R.	135-143A	Munir, Z.A.	475-480B	Pai, B.C.	1283-1292A		3214-3225A
Mao, X.	3817-3825A		2080-2085A	Pai, M.	4213-4216A	Rath, B.B.	1511-1516A
Marder, A.R.	481-489B	Munitz, A.	4049-4059A	Palit, S.K.	465-474B	Ratke, L.	2470-2478A
	3192-3202A	Munoz-Andrade, D.	3330-3335A	Palle, N.	707-717A	Ratkje, S.K.	788-793B
Margolin, H.	451-458A	Munro, T.C.	3761-3772A	Palmieri, E.J.	951-960A	Ravi, M.	1283-1292A
Mari, D.	183-191A	Muraleecharan, K.	2593-2604A	Panchanadikar, V.V.	351-354B	Ravichandran, K.S.	2583-2592A
	2820-2836A	Muralidhar, G.K.	1057-1060B	Pandey, A.B.	305-316A		3126-3134A
Marquis, F.	557-567A	Murphy, W.H.	1081-1094A	Pandey, B.D.	465-474B	Rawers, J.	3126-3134A
Marsh, S.P.	4133-4144A	Murr, L.E.	1773-1778A	Pandri, R.	1544-1553A	Reddy, R.G.	1121-1126A
Marthinsen, K.	3330-3335A	Murray, B.T.	687-694A	Pangborn, R.N.	3841-3851A	Reed-Hill, R.E.	3524-3529A
Martinez, E.	486-490A	Murray, M.T.	115-118B	Papangelakis, V.G.	555-566B		3957-3962A
Martinez, J.L.	3601-3611A	Murty, B.S.	791-800A	Parades, C.J.	2305-2313A	Ren, G.	2911-2915A
Martinez, L.	385-392B	Musulin, I.	3530-3541A	Paransky, E.	2130-2139A	Reppich, B.	3861-3870A
Matsumura, K.	1251-1266A	Mutharasan, R.	911-920B	Paray, F.	929-936A	Reuter, M.A.	1031-1044B
Mataya, M.C.	3773-3780A	Nabarro, F.R.N.	513-530A	Park, D.S.	490-493A	Reynolds, W.T., Jr.	1676-1682A
				Park, H.-D.	3120-3125A	Rhee, W.H.	451-458A

Richards, N.L.	785-790A	Semeels, A.	3357-3361A	Sui, H.X.	1779-1784A	Trivedi, R.	509-824A
Richards, W.J.	3682-3687A	Seyhan, I.	2470-2478A	Sui, Z.T.	71-79B		625-634A
Rifkin, J.A.	1476-1488A	Sha, H.	305-314B	Suito, H.	57-64B		2727-2739A
Rigney, J.D.	3292-3306A	Shah, R.	1353-1362A		263-270B	Tsai, P.C.	399-408B
Rios, P.R.	1132-1134A	Shah, J.K.	205-211A		423-431B	Tsai, T.C.	2617-2627A
Ritchie, R.O.	3781-3792A		213-219A		943-953B	Tsubakino, H.	1668-1675A
Roberts, J.A.	2820-2836A		221-228A	Sukla, L.B.	351-354B	Tsukhashi, F.	967-972B
	3739-3746A	Shankar, P.	1175-1186A	Sukonnk, I.M.	2051-2053A	Turnbull, D.	725-730A
Robino, C.V.	65-69B	Shao, Y.	1476-1488A	Sumin, V.V.	2045-2046A	Ueda, H.	35-41B
Rodriguez, P.	1313-1325A	Sharivker, V.S.	788-793B	Sumiyama, K.	4210-4213A		765-772B
	2881-2887A	Sharp, W.	923-928A	Sun, H.	852-862B	Uhrenius, B.	2869-2880A
Rohatgi, P.K.	277-285B	Shekhar, R.	19-27B	Sun, X.	355-361B	Ullakko, K.	1815-1821A
Rokhlin, S.I.	165-182A	Shen, Y.-L.	3700-3717A	Sundaraman, D.	1175-1186A	Ulvensoen, J.H.	3630-3638A
Rolseth, S.	177-183B	Sherby, O.D.	111-118A		2966-2977A	Urao, R.	401-405A
	185-193B		2637-2642A	Sundman, B.	2897-2903A	Uttomark, M.J.	533-547A
	739-744B	Sherif El-Eskan-		Suni, J.P.	1045-1056B	Uwakweh, O.N.C.	2904-2910A
Rönkä, K.J.	2229-2238A	deramy, M.	3267-3278A	Suresh, S.	3700-3717A	Vaidya, R.U.	459-465A
Root, J.H.	993-997B	Shi, N.	3739-3746A	Suryanarayana, C.	41-48A	Valentini, R.	3773-3780A
Roy, N.	415-429A	Shiau, M.Y.	203-211B		1033-1041A	Valiente, A.	291-304A
Roy, T.	1167-1173A	Shifflet, G.J.	1595-1605A	Suzuki, K.	4210-4213A	Van Aken, D.C.	2565-2573A
Roy, T.K.	3993-4002A		3431-3444A	Suzuki, M.	3307-3317A	Van Houtte, P.	2347-2358A
	4003-4010A	Shigematsu, T.	719-724A	Svensson, I.	81-99B	Van Loo, F.J.J.	59-69A
Royal, T.E.	1761-1771A	Shih, H.-C.	2479-2494A	Svensson, I.L.	2209-2220A		2229-2238A
Roytburd, A.L.	1687-1692A	Shim, J.-H.	955-966B	Swaminathan, S.	2047-2050A	Van Loon, P.J.J.	2229-2238A
Ruano, O.A.	1861-1867A	Shimizu, K.	719-724A	Swamy, K.M.	351-354B	Van Zyl, B.P.	1203-1216A
Rubin, J.B.	2297-2304A	Shirayanagi, I.	4163-4169A	Sweet, E.D.	3530-3541A	Vandemeer, R.A.	1511-1516A
Russell, K.C.	1441-1448A	Shtessel, V.E.	2852-2858A	Swinbourne, D.R.	3187-3191A	Varghese, V.	647-651B
Ruuskanen, P.R.	2297-2304A	Sichen, D.	318-322B	Symons, D.M.	101-110A	Varin, R.A.	5-17A
Ryum, N.	2916-2922A		409-416B	Syn, C.K.	111-118A		71-79A
Saccone, A.	979-986B	Sikka, V.K.	4011-4018A	Szpunar, J.A.	3649-3661A	Varma, S.K.	2023-2034A
Sadoway, D.R.	839-845B	Singhai, N.	3669-3674A	Tacke, K.-H.	869-879B	Varona, J.M.	281-290A
Sagar, P.K.	2593-2604A	Singh, A.K.	1167-1173A	Tada, S.	1585-1594A		291-304A
Sahay, S.S.	2383-2385A	Singh, J.	3135-3148A	Tadaki, T.	719-724A	Vatne, H.E.	4133-4144A
Sahin, O.	451-458A	Singh, M.	3669-3674A	Tagami, M.	1668-1675A	Vecchio, K.S.	1739-1748A
Sáinz, E.	379-384B		3727-3738A	takada, K.	4210-4213A	Venkateswara Rao, K.T.	3781-3792A
	801-807B	Sinha, T.K.	3340-3343A	Takagi, S.	1630-1641A	Venugopal, S.	119-126A
Sakai, Y.	4163-4169A	Skrotzki, B.	3431-3444A	Takahashi, S.	2187-2195A	Venugopalan, H.	43-50B
Sakaki, T.	317-326A	Skrutskmoen, E.	739-744B	Takahashi, T.	1047-1053A	Venugopalan, R.	731-738B
Salas, D.	2023-2034A	Smetzer, W.W.	3649-3661A		1585-1594A	Verhoeven, J.D.	496-498A
Salvens, G.	3126-3134A	Smith, B.J.	3192-3202A	Takel, A.	3753-3759A		2328-2337A
Samaraekera, I.V.	4095-4111A	Smith, P.M.	725-730A	Talefi, E.M.	111-118A	Verlinden, B.	3357-3361A
	4113-4120A	Smith, P.R.	3074-3080A		343-352A	Verna, R.	1889-1898A
Samuel, A.M.	415-429A	Smouk, S.Yu.	1815-1821A	Talvitie, M.	4171-4181A	Vetrano, J.S.	2947-2957A
	1785-1798A	Soboyejo, W.O.	2263-2273A	Tamura, M.	4183-4191A	Vijay, P.L.	731-738B
Samuel, F.H.	415-429A	Sohn, H.Y.	213-219B	Tanabe, J.	385-392B	Vijaya, H.S.	1057-1060B
	1785-1798A	Solheim, A.	739-744B	Tanaka, M.	2678-2685A	Vinokur, A.	2852-2858A
Sanders, T.H., Jr.	19-27A	Solina, A.	3773-3780A	Tang, S.	827-838B	Vinokur, B.B.	2852-2858A
Sano, N.	652-657B	Solis, M.	2023-2034A	Tankala, K.	43-50B	Vinsand, T.	604-609B
	846-851B	Solnordal, C.B.	221-230B	Tarasenko, A.V.	1815-1821A	Visvesvaran, P.	973-980A
Saqib, M.	937-941B	Somers, M.A.J.	1055-1061A	Tawara, E.	967-972B	Viswanathan, U.K.	757-761A
Sarkissian, A.	491-500B		1063-1071A	Tekin, A.	3727-3738A	Vitek, J.M.	763-774A
Sarkissian, A.	635-656A	Sommer, F.	921-927B	Terakado, K.	401-405A	Vivès, C.	445-455B
Sarma, B.	717-730B	Song, H.	51-55B	Tewari, S.N.	1095-1110A		457-464B
Sarral-Mamoony, R.	577-584B		1095-1110A		1111-1119A	Voorhees, P.W.	937-943A
	585-594B	Song, S.	3361-3390A		3669-3674A		2470-2478A
Sathiyamoorthy, D.	731-738B	Song, S.G.	459-465A	Thadhani, N.N.	3727-3738A	Voskamp, A.P.	3445-3465A
Sato, F.	929-935B	Sopousek, J.	701-704B		1749-1759A	Vrestal, J.	701-704B
Sato, M.	3753-3759A	Serie, M.	177-183B		1761-1771A	Wadsworth, J.	343-352A
Saunders, F.J.	2605-2616A	Sosnin, V.V.	2045-2046A	Thakur, A.	1739-1748A	Wagner, C.N.J.	2888-2896A
Sauthoff, G.	1395-1400A	Spanos, G.	1517-1532A		2274-2284A	Wagoner, R.H.	2605-2616A
	2642-2652A	Spencer, C.W.	1676-1682A	Thanaboonsombut, B.	19-27A		3971-3981A
Savva, G.C.	1606-1617A	Spigarelli, S.	3871-3879A	Thévoz, Ph.	695-705A	Walde, P.A.	775-783A
Schaefer, M.	1293-1302A	Spooner, S.	2934-2946A	Thomas, B.G.	509-525B	Waku, Y.	3307-3317A
Schiffers, H.	255-267A	Stackpoole, M.M.	839-849A		617-632B	Wallace, T.C., Sr.	141-146B
Schmidt, P.	81-99B	Stake, E.A., Jr.	3431-3444A		672-685B		433-443B
Schoenung, J.M.	2115-2121A	Steele, J.H.	433-443B	Thompson, A.W.	689-693B	Walls, D.P.	1899-1907A
Schulze, T.P.	583-593A	Steele, J.K.	981-993A	Thompson, R.G.	101-110A	Wan, C.C.	1363-1370A
Schuster, H.	255-267A	Stefanescu, D.M.	2708-2721A	Thompson, S.W.	2892-2703A	Wang, C.-C.	3162-3169A
	851-861A		4061-4074A		1251-1266A	Wang, C.Y.	2754-2764A
Schwartz, D.S.	2263-2273A		4075-4083A		1554-1568A		2765-2783A
Schwenker, S.W.	4193-4204A		4205-4210A	Thonstad, J.	1569-1584A		2784-2795A
Schwerdtfeger, K.	231-239B	Sterten, A.	255-261B		177-183B	Wang, G.-X.	2285-2292A
	305-314B		739-744B		185-193B	Wang, G.Z.	1909-1917A
Schwitzgebel, G.	2419-2428A	Steube, R.S.	569-581A		255-261B	Wang, H.Z.	2385-2389A
Seetharaman, S.	318-322B	Stiller, K.	327-341A	Tian, D.W.	4031-4038A	Wang, J.-J.	1533-1543A
	409-416B	Steen, L.	739-744B	Tiedje, N.	4085-4093A	Wang, L.	1347-1352A
	2105-2114A	Stere, T.	739-744B	Tjong, S.C.	2385-2389A	Wang, L.L.	141-146B
Seetharaman, V.	2978-2984A	Strahan, A.	3187-3191A		2663-2672A		433-443B
	1933-1950A	Strehler, M.	1003-1014A	Tjetta, S.	501-508B	Wang, M.	819-821A
	2051-2053A	Stubbergh, J.R.	604-609B	Toda, H.	2013-2021A	Wang, R.	3108-3111A
Sehitoglu, H.	3068-3073A		895-900B	Tomsett, A.	297-304B	Wang, S.	3318-3329A
	3491-3502A	Su, Q.	2858-2860A	Tomeia, A.P.	2100-2104A	Wang, W.	3971-3981A
Sekhar, J.A.	961-972A	Subbanna, G.N.	1057-1060B		2122-2129A	Wang, X.-J.	3971-3981A
Serniatin, S.L.	1709-1720A	Subrahmanyam, J.	237-240A	Tandel, P.A.	2305-2313A	Wang, Z.F.	2686-2691A
	1933-1950A	Subramanian, P.R.	1642-1654A	Torchane, L.	1823-1835A	Wang, Z.G.	3662-3668A
	2051-2053A	Subramanian, S.V.	1149-1165A	Toriama, O.	3925-3935A	Wang, Z.M.	1595-1605A
	3112-3119A	Subramanian, V.	961-972A	Torres-Villaseñor, G.	3330-3335A	Warren, J.A.	657-669A
	3675-3681A	Sudhakar, V.	704-708B	Torund, T.	3630-3638A	Warrier, S.G.	527-532B
Sen, R.	503-505A	Sudhölter, S.	1031-1044B	Totemeier, T.C.	353-361A		1379-1394A
Senkov, O.N.	1303-1312A	Suh, D.	3149-3161A		363-369A		2035-2043A
	1869-1876A		3893-3901A	Trefny, J.U.	2958-2965A	Watanabe, H.	1630-1641A
	1877-1887A						
	3963-3970A						

Watanabe, Y.	4145-4151A	Wolff, I.M.	1395-1400A	Yamamoto, A.	1668-1675A	Zelin, M.G.	1400-1403A
Watwe, A.S.	493-498A		2642-2652A	Yamamoto, T.	385-392B	Zeng, X.	2115-2121A
Weatherly, G.C.	1149-1165A		3688-3699A	Yamane, T.	1807-1814A	Zhang, D.L.	3983-3991A
	1606-1617A	Won, C.W.	315-318B	Yamano-Uchi, N.	385-392B	Zhang, H.	891-900A
Weaver, M.L.	3542-3557A	Wong, J.	775-783A	Yang, H.R.	3343-3346A	Zhang, J.	2094-2099A
Webster, G.A.	829-837A	Wu, D.	2293-2296A	Yang, J.-M.	1363-1370A		2293-2296A
Wei, B.	2293-2296A	Wu, L.-T.	3639-3648A	Yang, L.	2094-2099A	Zhang, L.	794-800B
Wei, R.P.	29-40A	Wu, S.K.	527-532B	Yang, S.T.	863-872A	Zhang, P.	2105-2114A
	3391-3398A		1379-1394A	Yang, Y.	1025-1029B		2978-2984A
Wei, S.	973-978B	Wu, S.Q.	2385-2389A	Yang, Z.-G.	1533-1543A	Zhang, S.Q.	1779-1784A
Weinem, D.	1700-1708A	Wu, W.	3639-3648A	Ye, F.	2263-2273A	Zhang, Z.	205-211A
Wells, M.E.	698-701B	Wu, X.	157-162B	Yegneswaran, A.H.	3513-3523A		221-228A
Weng, G.J.	317-326A	Wu, Y.	2115-2121A	Yeh, J.-W.	1951-1962A		2911-2915A
	2359-2365A	Wuttig, M.	1687-1692A		3558-3568A	Zheng, L.	3983-3991A
Wert, J.A.	127-134A		2858-2860A	Yin, F.	719-724A	Zheng, X.L.	3089-3094A
	269-279A	Xiao, H.	185-193B	Yilitako, M.	49-57A	Zheng, Y.K.	1533-1543A
	3503-3512A	Xing, X.	973-978B	Yokoyama, K.	2574-2582A	Zhigalina, O.M.	2045-2046A
Wessén, M.	2209-2220A	Xu, C.	2094-2099A	Yoo, C.H.	3466-3472A	Zhou, Y.	1047-1053A
Westwood, A.R.C.	337-350B	Xu, D.M.	2221-2228A	Yoon, D.-Y.	3120-3125A	Zhu, D.	2094-2099A
	1413-1426A	Xu, H.B.	3682-3688A	Yoon, D.Y.	2809-2819A	Zhu, M.	819-821A
Wheeler, R.	2047-2050A	Xu, L.Y.	2429-2435A	Yoon, Y.C.	1273-1281A	Zhu, S.M.	2663-2672A
Whittenberger, J.D.	2628-2641A	Xu, P.	1187-1201A	Yu, D.P.	2911-2915A	Zhu, Z.	1327-1331A
	3170-3180A	Xu, R.	2221-2228A	Yu, S.Y.	2653-2662A	Zok, F.W.	1899-1907A
Wiezorek, J.M.K.	2047-2050A	Xu, X.	1347-1352A	Yu, Z.	1347-1352A	Zurek, A.K.	459-465A
Wilson, A.	2196-2208A	Xue, H.	475-480B	Zaki, M.	1043-1046A		
Windisch, C.F., Jr.	839-849A	Xue, X.M.	71-79B	Zakulski, W.	2419-2428A		
Wiskel, J.B.	119-127B	Yamada, H.	1021-1031A	Zaluska, A.	929-936A		
	129-137B	Yamada, S.	1979-1989A	Zbiral, J.	1371-1377A		



Combined Subject Index

- Abrasion resistant coatings, Mechanical properties**
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Abrasive wear**
The wear behavior between hardfacing materials. 3639-3648A
Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites. 4171-4181A
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites. 4183-4191A
- Abrasive wear, Coating effects**
Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Abrasives**
Friability and crushing strength of micrometer-size diamond abrasives used in microgrinding of optical glass. 1047-1053A
- Accuracy**
Solid-state contributions to densification during liquid-phase sintering. 901-909B
Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
Plastic zone and pileup around large indentations. 3793-3800A
Measurement of friction under sheet forming conditions. 3971-3981A
High-temperature oxidation of Ti₃Al-based titanium aluminides in oxygen. 3993-4002A
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
- Acid leaching**
Zinc reduction of MoO₃ in a self propagating high temperature synthesis process. 315-318B
- Acoustic emission testing**
Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Activated sintering**
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Activation**
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels. 1815-1821A
- Activation energy**
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
- Activity (chemical)**
Chemical potentials of components of the system CaO-P₂O₅-Fe₂O₃ at 1673K. 595-603B
Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO₂ system and the standard Gibbs free energies of formation of CaZrO₃ from CaO and ZrO₂. 658-662B
- Adsorption, Temperature effects**
Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
- Aerospace**
Materials and society—impacts and responsibilities. 337-350B
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
- Aging (artificial)**
Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A
Characterization of the formation of α_1 plates from the β_3 phase in a Cu-Zn-Au alloy. 719-724A
Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
Microstructural stability on aging of an α - β titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A
- Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₁₆N₂ nitride by interstitial ordering in martensite. 2160-2177A
Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A
Precipitation behaviors in Al-Cu-Mg and 2024 aluminum alloys. 2479-2494A
Atmospheric stress corrosion cracking of a superplastic 7475 aluminum alloy. 2617-2627A
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films. 3753-3759A
- Aging (natural), Alloying effects**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al₂O₃ metal matrix composites. 2005-2012A
- Air, Environment**
Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A
- Aircraft components, Materials selection**
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Alkali metals, Impurities**
Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions. 3530-3541A
- Alkalies, Environment**
Stress corrosion cracking of pressure vessel steels in high-temperature caustic aluminate solutions. 1327-1331A
- Alloy powders, Phase transformations**
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃₃Ta₆₇ alloy powders. 3267-3278A
- Alloy powders, Phases (state of matter)**
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Alloying**
The production of nickel-zinc alloys by powder injection. 780-787B
- Aluminothemic reactions, Temperature effects**
Modeling of sequential reactions during microprecipitation synthesis. 961-972A
- Aluminum, Alloying additive**
Retardation of intermetallic phase formation in experimental superferitic stainless steels. 2436-2444A
- Aluminum, Alloying elements**
Solubility of carbon in CaO-Al₂O₃ melts. 57-64B
- Aluminum, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Inverse melting in binary systems: morphology and microscopy of catatetic alloys. 979-986B
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Aluminum, Bonding**
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Aluminum, Casting**
Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation. 81-99B
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model. 119-127B
Influence of chromium and impurities on the grain refining behavior of aluminum. 791-800A
- Aluminum, Composite materials**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 488-490A
The Bauschinger effect in a SiC/Al composite. 995-1001A
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B

- Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
- Microstructure and properties of $Al_2O_3-Al(Si)$ and $Al_2O_3-Al(Si)-Si$ composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A
- The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A
- Ni_3Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
- Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Infiltration of fibrous preform by molten aluminum in a centrifugal force field. 4163-4169A
- Aluminum, Crystal growth**
- Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A
- Determination of the solidification curves of commercial aluminum alloys. 2722-2726A
- Aluminum, Diffusion**
- Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique. 725-730A
- Aluminum, Dopants**
- Improved oxidation resistance of group VB refractory metals by Al^{3+} ion implantation. 491-500B
- Aluminum, Electrical properties**
- Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells. 19-27B
- Aluminum, Extraction**
- Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis. 185-193B
- Electrical conductivity of molten cryolite based mixtures obtained with a tube type cell made of pyrolytic boron nitride. 255-261B
- Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. 739-744B
- The transported entropy of Na^+ in solid state cryolite. 788-793B
- Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Aluminum, Forming**
- Reply: Dynamic materials model. Basis and principles. 235-236A
- Aluminum, Mechanical properties**
- Communication: Mechanical deformation of dendrites by fluid flow. 229-232A
- Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
- Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
- Aluminum, Oxidation**
- Reoxidation of aluminum in Fe-Al-M (M=C, Mn, and Ti) melts with $CaO-Al_2O_3-FeO$ (3 mass%) slags. 423-431B
- Aluminum, Physical properties**
- Variation of contact angles with temperature and time in the $Al-Al_2O_3$ system. 51-55B
- Aluminum, Quaternary systems**
- An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Aluminum, Rolling**
- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A
- Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Aluminum, Ternary systems**
- Evolution of microstructures in the nickel modified titanium tri-aluminides near the L_{12} phase field. 5-17A
- Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L_{12} phase field. 71-79A
- Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
- Experimental study of the phase equilibria in the Fe-Mn-Al system. 2429-2435A
- Thermodynamic activities and phase boundaries for the alloys of the Ni_3Al-Ni_3Ti pseudobinary section in the Ni-Al-Ti system. 2673-2677A
- Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni_3Al . 3569-3575A
- Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Aluminum base alloys**
- The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. 1951-1962A
- Aluminum base alloys, Alloy development**
- Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
- Aluminum base alloys, Casting**
- Scaling of intragranular dendritic microstructure in ingot solidification. 101-113B
- Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
- Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
- Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields. 445-455B
- Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields. 457-464B
- The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. 1951-1962A
- Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys. 2305-2313A
- A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
- Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- The squeeze casting of hypoeutectic binary Al-Cu. 4121-4132A
- Aluminum base alloys, Composite materials**
- Probing the initial stage of synthesis of Al_2O_3/Al composites by directed oxidation of Al-Mg alloys. 43-50B
- Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces. 213-219A
- Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
- Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
- Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
- Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
- The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
- Solidification of binary hypoeutectic alloy matrix composite castings. 585-609A
- Solidification of particle-reinforced metal-matrix composites. Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/ Al_2O_3 metal matrix composites. 663-671B
- 2005-2012A
- The control of grain size and distribution of particles in a (6061 alloy)_m(Al_2O_3)_p composite by solutionizing treatment. 2023-2034A
- On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
- Wear behavior of aluminum-based metal matrix composites reinforced with a preform of aluminosilicate fiber. 2385-2389A
- Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites. 2653-2662A
- Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. 2837-2842A
- Failure characteristics of 6061/ $Al_2O_3/15_p$ and 2014/ $Al_2O_3/15_p$ composites as a function of loading rate. 3095-3107A
- High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
- Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
- Structure of phases in the $\delta-Al_2O_3$ fiber studied by convergent beam electron diffraction. 3318-3329A
- Microstructural changes in a mechanically alloyed Al-6.22Zn-2.5Mg-1.7Cu alloy (7010) with and without particulate SiC reinforcement. 3718-3726A
- Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A
- Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
- Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Mathematical modeling of the extrusion of 6061/ $Al_2O_3/20p$ composite. 4095-4111A
- Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
- Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A
- Aluminum base alloys, Corrosion**
- Atmospheric stress corrosion cracking of a superplastic 7475 aluminum alloy. 2617-2627A
- Aluminum base alloys, Crystal growth**
- Modeling of microsegregation in macrosegregation computations. 2314-2327A
- Determination of the solidification curves of commercial aluminum alloys. 2722-2726A
- Equiaxed dendritic solidification with convection. I. Multiscale/multiphase modeling. 2754-2764A
- Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy. 2765-2783A

- Equiaxed dendritic solidification with convection. III. Comparisons with $\text{NH}_4\text{Cl-H}_2\text{O}$ experiments. 2784-2795A
Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. 2947-2957A
- Aluminum base alloys, Diffusion**
Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1686A
- Aluminum base alloys, Forming**
Reply: Dynamic materials model. Basis and principles. 235-236A
- Aluminum base alloys, Heat treatment**
A process model for on-line quenching of aluminum extrusions. 501-508B
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
- Aluminum base alloys, Mechanical properties**
Enhanced ductility in coarse-grained Al-Mg alloys. 343-352A
Mechanical behavior and properties of mechanically alloyed aluminum alloys. 737-745A
A study of the influence of mischmetal additions to Al-7Si-0.3Mg (LM 25/356) alloy. 1283-1292A
Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy. 1293-1302A
On microsuperplasticity in AA7475 domes. 1400-1403A
Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A
Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
Growth behavior of microstructurally short cracks in the 6061 aluminum alloy with and without 22 vol.% SiC whiskers. 2013-2021A
Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
Intergranular fracture in some precipitation-hardened aluminum alloys at low temperatures. 3081-3088A
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
Simulation of the hot-tension test under cavitating conditions. Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy. 3112-3119A
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3478-3490A
Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions. 3503-3512A
The cracking mechanism of silicon particles in an A357 aluminum alloy. 3530-3541A
Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3558-3568A
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3827-3839A
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3853-3860A
Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3871-3879A
The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy. 3913-3923A
3983-3991A
- Aluminum base alloys, Metal working**
An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy. 2252-2262A
- Aluminum base alloys, Microstructure**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013. 19-27A
Crystallization of amorphous alloys. 549-555A
Numerical modeling of cellular/dendritic array growth: spacing and structure predictions. 611-623A
Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
- Aluminum base alloys, Phase transformations**
Banded solidification microstructures. 625-634A
Computer simulation of ledge migration under elastic interaction. 1489-1498A
Phase transformations in condensed systems revisited: industrial applications. 2397-2418A
The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Aluminum base alloys, Phases (state of matter)**
Mechanical alloying of Nb-Al powders. 41-48A
Nucleation controlled solidification kinetics. 533-547A
Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
- A high resolution transmission electron microscopy study of interfaces between the γ , B2, and α_2 phases in a Ti-Al-Mo alloy. 1618-1629A
Microstructural aspects of the dissolution and melting of Al_2Cu phase in Al-Si alloys during solution heat treatment. 1785-1798A
High-resolution electron microscopy analysis of structural defects in a (2/1, 5/3)-type approximant of a decagonal quasicrystal of an Al-Pd-Mn alloy. 2911-2915A
- Aluminum base alloys, Rolling**
Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Aluminum base alloys, Structural hardening**
Precipitation behaviors in Al-Cu-Mg and 2024 aluminum alloys. On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 2479-2494A
3431-3444A
- Aluminum base alloys, Surface properties**
Measurement of friction under sheet forming conditions. 3971-3981A
- Aluminum compounds**
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Aluminum compounds, Alloying elements**
Notch fracture in γ -titanium aluminides. 3903-3912A
- Aluminum compounds, Coating**
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A
- Aluminum compounds, Coatings**
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I. 353-361A
Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Aluminum compounds, Composite materials**
Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A
 Ni_3Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
- Aluminum compounds, Joining**
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Aluminum compounds, Mechanical properties**
Non-Schmid effects on the behavior of polycrystals, with applications to Ni_3Al . 81-99A
Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti $_3$ Al lamellar alloy. 127-134A
Raffing in superalloys. 513-530A
High-temperature deformation properties of NiAl single crystals. 1229-1240A
Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr. 2239-2251A
High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
Elevated temperature compressive properties of zirconium-modified NiAl. 2628-2641A
Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe_3Al . 2985-2993A
Elevated temperature compressive properties of N-doped NiAl. 3170-3180A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
Shear ligament phenomena in Fe_3Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A
Hydrogen-induced cleavage fracture of Fe_3Al -based intermetallics. 3949-3956A
- Aluminum compounds, Oxidation**
High-temperature oxidation of Ti $_3$ Al-based titanium aluminides in oxygen. 3993-4002A
Effect of nitrogen on the oxidation behavior of Ti $_3$ Al-based intermetallic alloys. 4003-4010A
- Aluminum compounds, Phase transformations**
Molecular dynamics simulation of martensitic transformations in NiAl. 1476-1488A
Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys. 2445-2453A
- Aluminum compounds, Powder technology**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends. 2130-2139A
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Aluminum compounds, Reactions (chemical)**
Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B

- Aluminum compounds, Structural hardening**
Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A
- Aluminum compounds, Thermal properties**
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
- Aluminum killed steels, Crystal growth**
Austenite grain growth kinetics in Al-killed plain carbon steels. 3399-3409A
- Aluminum killed steels, Metal working**
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Aluminum killed steels, Welding**
Forming of tailor-welded blanks. 2605-2616A
- Aluminum oxide, Composite materials**
Probing the initial stage of synthesis of Al₂O₃/Al composites by directed oxidation of Al-Mg alloys. 43-50B
Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces. 213-219A
Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
Solidification of binary hypoeutectic alloy matrix composite castings. 595-609A
Bridge toughening enhancement in double-notched MoSi₂/Nb model composites. 909-921A
Creep deformation of dispersion-strengthened copper. 1217-1227A
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al₂O₃ metal matrix composites. 2005-2012A
The control of grain size and distribution of particles in a (6061 alloy)_m/(Al₂O₃)_p composite by solutionizing treatment. 2023-2034A
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A
Failure characteristics of 6061/Al₂O₃/15_p and 2014/Al₂O₃/15_p composites as a function of loading rate. 3095-3107A
High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
Structure of phases in the δ-Al₂O₃ fiber studied by convergent beam electron diffraction. 3318-3329A
A model for coupled growth of reaction layers in reactive brazing of ZrO₂-toughened Al₂O₃. 3630-3638A
Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A
Mathematical modeling of the extrusion of 6061/Al₂O₃/20_p composite. 4095-4111A
Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
Infiltration of fibrous preform by molten aluminum in a centrifugal force field. 4163-4169A
- Aluminum oxide, Physical properties**
Variation of contact angles with temperature and time in the Al-Al₂O₃ system. 51-55B
- Aluminum oxide, Reactions (chemical)**
Activities in CaO-SiO₂-Al₂O₃ slags and deoxidation equilibria of silicon and aluminum. 943-953B
- Amorphization, Alloying effects**
Mechanical alloying of Nb-Al powders. 41-48A
- Amorphous structure**
Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A
- Amorphous structure, Heating effects**
Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A
- Amorphous structure, Temperature effects**
Crystallization of amorphous alloys. 549-555A
- Amplitude**
Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1899-1907A
- Anisotropy**
Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. 1869-1876A
- Anisotropy, Heating effects**
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- Annealing**
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
- Transition between internal and external nitridation of Ni-Ti alloys. 1606-1617A
Influence of long term annealing on tensile properties and fracture of near-α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si. 1700-1708A
An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A
The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
- Anode sludge, Oxidation**
Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Anodes**
An extended two-dimensional mathematical model of vertical ring furnaces. 297-304B
Fundamental studies of copper anode passivation during electrowinning. II. Surface morphology. 610-616B
- Anodes, Corrosion**
Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis. 185-193B
- Antimony, Impurities**
Behavior of antimony(III) during copper electrorefining in chloride solutions. 157-162B
- Armor, Mechanical properties**
Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A
- Atmospheric corrosion, Heating effects**
Atmospheric stress corrosion cracking of a superplastic 7475 aluminum alloy. 2617-2627A
- Atomic properties**
Atomistic Mechanisms of Nucleation and Growth in Solids.
- Atomic structure**
A high resolution transmission electron microscopy study of interfaces between the γ, B2, and α₂ phases in a Ti-Al-Mo alloy. 1618-1629A
- Atomic structure, Alloying effects**
Thermodynamics and long-range order of nitrogen in γ-Fe₃N_{1-x}. 1055-1061A
Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Atomic structure, Composition effects**
An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ-Fe₃N_{1-x} and ε-Fe₂N_{1-x}. 1063-1071A
- Atomic structure, Radiation effects**
Sputter-induced pits on (100) nickel surfaces. 981-993A
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Atomic structure, Stress effects**
Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
A study on coherency strain and precipitate morphology via a discrete atom method. 1449-1459A
Molecular dynamics simulation of martensitic transformations in NiAl. 1476-1488A
- Atomizing**
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
Microstructural development of a gas-atomized and hot-pressed super-α₂ alloy. 2221-2228A
- Austempering**
Neutron diffraction study of austempered ductile iron. 923-928A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
Effect of holding time in the (α+γ) temperature range on toughness of specially austempered ductile iron. 1979-1989A
- Austenite**
NITi and NITi-TiC composites. II. Compressive mechanical properties. 183-191A
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
- Austenite, Alloying effects**
The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-980A
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- Austenite, Cooling effects**
The role of grain corners in nucleation. 480-483A
Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1554-1568A

- Copper precipitation during continuous cooling and isothermal aging of A710 type steels. 1569-1584A
- Austenite, Crystal growth**
Austenite grain growth kinetics in Al-killed plain carbon steels. 3399-3409A
- Austenite, Deformation effects**
Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
Precipitation behavior in a medium carbon, Ti-V-N microalloyed steel. 1149-1165A
- Austenite, Heating effects**
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. 111-118A
Neutron diffraction study of austempered ductile iron. 923-928A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
- Austenite, Phases (state of matter)**
Ferrite nucleation and growth during continuous cooling. 1544-1553A
- Austenite, Temperature effects**
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
The driving force for martensitic transformations in low alloy steels. 1127-1132A
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Austenitic stainless steels**
Gibbs energies of formation of chromium carbides. 1919-1924A
- Austenitic stainless steels, Casting**
Effect of superheat on the solidification structures of AISI 310S austenitic stainless steel. 287-296B
- Austenitic stainless steels, Cladding**
Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A
- Austenitic stainless steels, Coating**
Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Austenitic stainless steels, Corrosion**
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach. 1313-1325A
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Austenitic stainless steels, Machining**
Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Austenitic stainless steels, Mechanical properties**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
Prediction of fatigue crack formation in 304 stainless steel. 1267-1271A
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels. 1815-1821A
Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Austenitic stainless steels, Metal working**
Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A
Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel. 1251-1266A
- Austenitic stainless steels, Microstructure**
Electron microscopic study of Cr₂N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Austenitic stainless steels, Phase transformations**
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels. 29-40A
- Austenitic stainless steels, Phases (state of matter)**
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
- Austenitic stainless steels, Welding**
Dilution in single pass arc welds. 481-489B
- Austenitic stainless steels phases (state of matter)**
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
- Austenitizing**
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. 111-118A
- Effect of holding time in the (α - γ) temperature range on toughness of specially austempered ductile iron. 1979-1989A
- Autoclaves**
A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
- Automobiles**
Materials and society—impacts and responsibilities. 337-350B
- Automotive components**
Materials and society—impacts and responsibilities. 337-350B
- Automotive components, Forming**
Forming of tailor-welded blanks. 2605-2616A
- Automotive components, Materials substitution**
Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A
- Axial stress**
Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
Effect of uniaxial stress on coarsening of precipitate clusters. 1460-1475A
The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
- Backscattering**
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Bacterial leaching**
Bioleaching of lateritic nickel ore by ultrasound. 351-354B
- Bainite**
The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
Formation of bainite in ferrous and nonferrous alloys through sympathetic nucleation and ledge-wise growth mechanism. 1533-1543A
- Bainite, Cooling effects**
Bainite in the light of rapid continuous cooling information. 1499-1510A
Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1554-1568A
- Bainite, Heating effects**
Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
Bainitic microstructures formed by split isothermal transformation in an Fe-C-Si-Mn-Mo steel. 1141-1147A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
- Baking**
An extended two-dimensional mathematical model of vertical ring furnaces. 297-304B
- Ball bearings, Microstructure**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Ball milling**
Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Ballistic impact tests**
Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A
- Banded structure**
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
- Banded structure, Temperature effects**
Banded solidification microstructures. 625-634A
- Barium, Quaternary systems**
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Bauschinger effect**
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature. 1739-1748A
- Bearing steels, Mechanical properties**
High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
- Bearing steels, Microstructure**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Bend strength, Microstructural effects**
Communication: Mechanical deformation of dendrites by fluid flow. 229-232A
Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy. 1887-1892A
Microstructure and mechanical behavior of Cr-Cr₂Hf in situ intermetallic composites. 2583-2592A

- Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Bend tests**
Failure characteristics of 6061/Al₂O₃/15p and 2014/Al₂O₃/15p composites as a function of loading rate. 3095-3107A
- Bend tests, Development**
Measurement of friction under sheet forming conditions. 3971-3981A
- Beryllium, Powder technology**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Bimetals, Mechanical properties**
Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Binary systems, Crystal growth**
Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
Modeling of microsegregation in macrosegregation computations. 2314-2327A
- Binary systems, Phases (state of matter)**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Generalized enthalpy method for multicomponent phase change. 869-879B
Inverse melting in binary systems: morphology and microscopy of catatctic alloys. 979-986B
Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
Thermodynamic studies and the phase diagram of the Li-Mg system. 2419-2428A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
Thermodynamic assessment of the Nb-N system. 3591-3600A
- Binary systems, Powder technology**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Binary systems, Reactions (chemical)**
Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
- Biocompatibility**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Biomedical materials**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Blast furnace chemistry**
Reaction equilibria in the production of manganese ferroalloys. Reoxidation of aluminum in Fe-Al-M (M=C, Mn, and Ti) melts with CaO-Al₂O₃-FeO (3 mass%) slags. 5-17B
423-431B
- Blast furnace slags**
Reaction equilibria in the production of manganese ferroalloys. Water model experiment on the liquid flow behavior in a bottom blown bath with top layer. 35-41B
The use of blast furnace slag and derived materials in the vitrification of electric arc furnace dust. 379-384B
A study of the thermal decomposition of BaCO₃. 409-416B
Reoxidation of aluminum in Fe-Al-M (M=C, Mn, and Ti) melts with CaO-Al₂O₃-FeO (3 mass%) slags. 423-431B
- Blast furnace slags, Reactions (chemical)**
Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
- Blowing**
The separation of the solids from the carrier gas during submerged powder injection. 773-779B
- Bonding**
Microstructure of bonding zones in laser-dad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Bonding strength**
Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
- Borides, Composite materials**
Extending the compositional limit of combustion-synthesized B₄C-TiB₂ composites by field activation. 475-480B
- Bottom blown converters**
Water model experiment on the liquid flow behavior in a bottom blown bath with top layer. 35-41B
Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 765-772B
- Brasses, Composite materials**
Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A
- Brasses, Phase transformations**
Influence of training time and temperature on shape memory effect in Cu-Zn-Al alloys. 3108-3111A
- Brasses, Surface properties**
Measurement of friction under sheet forming conditions. 3971-3981A
- Breeder reactors, Materials selection**
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Brinell hardness, Composition effects**
A study of the influence of mischmetal additions to Al-7Si-0.3Mg (LM 25/356) alloy. 1283-1292A
- Brittle fracture**
Simulation of the hot-tension test under cavitating conditions. 3112-3119A
- Brittle fracture, Heating effects**
Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si. 1700-1708A
- Brittle fracture, Welding effects**
Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel. 2574-2582A
- Brittleness**
Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Brittleness, Microstructural effects**
Bridge toughening enhancement in double-notched MoSi₂/Nb model composites. 909-921A
- Bronzes, Crystal growth**
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
- Bronzes, Mechanical properties**
Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed. 3513-3523A
- Bubbles**
Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 765-772B
Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Bubbling**
The separation of the solids from the carrier gas during submerged powder injection. 773-779B
- Bulk modulus, Alloying effects**
Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A
- Cadmium base alloys, Phase transformations**
Characterization of a massive transformation by microstructural analysis. 1511-1516A
- Calcium, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Calcium, Chemical analysis**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
- Calorimetry**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
Thermodynamic investigations of the ternary Au-Sn-Zn system. 921-927B
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃₃Ta₆₇ alloy powders. 3267-3278A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Carbide tools, Mechanical properties**
Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Carbides**
Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A

- Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation. 1799-1805A
- A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Carbides, Composite materials**
Extending the compositional limit of combustion-synthesized B_4C - TiB_2 composites by field activation. 475-480B
- Carbides, Crystal growth**
Abnormal growth of faceted (WC) grains in a (Co) liquid matrix. M_2C precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 2809-2819A
3466-3472A
- Carbides, High temperature effects**
Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A
- Carbon, Alloying elements**
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 483-486A
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A
- Carbon, Binary systems**
Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
Generalized enthalpy method for multicomponent phase change. 869-879B
- Carbon, Composite materials**
Permeability of microporous carbon preforms. 3669-3674A
Wear and friction behavior of metal impregnated microporous carbon composites. 3727-3738A
- Carbon, Diffusion**
Modeling of ferrite growth in nodular cast iron. 2209-2220A
Annealing and aging of interstitial C in α -Fe, as measured by internal friction. 2461-2469A
- Carbon, End uses**
Permeability of microporous carbon preforms. 3669-3674A
- Carbon, Impurities**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Carbon, Quaternary systems**
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
- Carbon, Reactions (chemical)**
Reduction of FeO in smelting slags by solid carbon: experimental results. 717-730B
- Carbon, Solubility**
Solubility of carbon in CaO - Al_2O_3 melts. 57-64B
- Carbon, Ternary systems**
 $M_{23}C_6$ carbide equilibria in the Fe-Cr-C system. 701-704B
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
- Carbon dioxide, Reactions (chemical)**
Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Carbon manganese steels, Irradiation**
A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 3381-3390A
- Carbon manganese steels, Mechanical properties**
A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Carbon monoxide, Reactions (chemical)**
Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Carbon steels, Casting**
Intermixing model of continuous casting during a grade transition. 617-632B
- Carbon steels, Corrosion**
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Carbon steels, Phases (state of matter)**
Ferrite nucleation and growth during continuous cooling. 1544-1553A
- Carbonitrides**
Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Carbonitriding**
Surface morphology and compound layer pores of plasma nitrocarburized low carbon steel. 135-143A
Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge. 401-405A
- Theoretical treatment of nitriding and nitrocarburizing of iron. 1073-1080A
Corrosion fatigue in nitrocarburized quenched and tempered steels. 1333-1346A
- Carbothermic reactions**
A kinetic study of the reaction of zinc oxide with iron powder. 363-374B
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. II. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
- Carburizing**
Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge. 401-405A
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
- Case depth**
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
- Cast iron, Melting**
Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Cast iron, Microstructure**
Transitions between type A flake, type D flake, and coral graphite eutectic structures in cast irons. 2740-2753A
- Castability**
Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys. 2305-2313A
- Casting**
Solidification of particle-reinforced metal-matrix composites. 863-871B
Prediction of dendrite arm spacing for low alloy steel casting processes. 689-693B
- Casting alloys, Casting**
Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys. 2305-2313A
- Casting defects**
A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
- Casting defects, Cooling effects**
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
- Casting defects, Temperature effects**
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- Castings, Crystal growth**
A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
- Castings, Heat treatment**
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
- Castings, Mechanical properties**
Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy. 1293-1302A
- Castings, Microstructure**
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields. 457-464B
Some consequences of thermosolutal convection: the grain structure of castings. 569-581A
Solidification of binary hypoeutectic alloy matrix composite castings. 595-609A
Prediction of grain structures in various solidification processes. 695-705A
Influence of chromium and impurities on the grain refining behavior of aluminum. 791-800A
Macrosegregation during dendritic arrayed growth of hypoeutectic Pb-Sn alloys: influence of primary arm spacing and mushy zone length. 1353-1362A
Phase transformations in condensed systems revisited: industrial applications. 2397-2418A
- Castings, Structural hardening**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/ Al_2O_3 metal matrix composites. 2005-2012A

Cavitation

- The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
- Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
- Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
- Simulation of the hot-tension test under cavitating conditions. 3112-3119A

Cavitation, Deformation effects

- High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A

Cemented carbides, Coatings

- Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A

Cemented carbides, Powder technology

- Abnormal growth of faceted (WC) grains in a (Co) liquid matrix. 2809-2819A

Cementite, Heat treatment effects

- Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. 111-118A

Centrifugal casting

- Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
- Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
- The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. 1951-1962A

Centrifugal castings, Structural hardening

- Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B

Centrifugal force

- Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
- Infiltration of fibrous preform by molten aluminum in a centrifugal force field. 4163-4169A

Ceramic coatings

- Investigation of the temperature field developed by a spinning beam in laser processing. 4039-4047A

Ceramics, Composite materials

- Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A
- Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A

Cerium, Alloying additive

- Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A

Cerium, Binary systems

- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Inverse melting in binary systems: morphology and microscopy of catatetic alloys. 979-986B

Cerium, Dopants

- The growth and structure of thin oxide films on cerium ion-implanted nickel. 3649-3661A

Chalcocite, Reduction (chemical)

- Kinetics of the flash converting of MK (chalcocite) concentrate. 163-175B

Chalcopyrite, Reactions (chemical)

- Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 465-474B

Charging

- Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels. 29-40A

Chemical composition

- Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
- Intermixing model of continuous casting during a grade transition. 617-632B
- On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
- Structural stability of super duplex stainless steel welds and its dependence on tungsten and copper. 2196-2208A

Chemical equilibrium

- Reaction equilibria in the production of manganese ferroalloys. 5-17B
- Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams. 65-69B

Chemical equilibrium, Alloying effects

- Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A

Chemical equilibrium, Cooling effects

- Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results. 433-443B

Chemical potential

- Thermodynamic properties of oxygen in yttrium-oxygen solid solutions. 839-845B

Chemical potential, Composition effects

- Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni_3Al . 3569-3575A

Chemical processing equipment, Corrosion

- Initiation of stress corrosion cracking for pipeline steels in a carbonate-bicarbonate solution. 2686-2691A

Chromium, Alloying elements

- A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A

Chromium, Binary systems

- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B

Chromium, Diffusion

- Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A

Chromium, Impurities

- Influence of chromium and impurities on the grain refining behavior of aluminum. 791-800A

Chromium, Ternary systems

- M_{23}C_6 carbide equilibria in the Fe-Cr-C system. 701-704B
- Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A

Chromium base alloys, Composite materials

- The fracture toughness of niobium-based, in situ composites. 2518-2531A

Chromium base alloys, Corrosion

- Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A

Chromium base alloys, Mechanical properties

- Microstructure and mechanical behavior of Cr-Cr₂Hf in situ intermetallic composites. 2583-2592A

Chromium carbide

- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A

Chromium carbide, Physical properties

- Gibbs energies of formation of chromium carbides. 1919-1924A

Chromium molybdenum steels, Cladding

- Solidification of an alloy 625 weld overlay. 3612-3620A
- The wear behavior between hardfacing materials. 3639-3648A

Chromium molybdenum steels, Corrosion

- The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
- A strain-based fracture model for stress corrosion cracking of low-alloy steels. 291-304A

Chromium molybdenum steels, Heat treatment

- Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge. 401-405A
- Corrosion fatigue in nitrocarburized quenched and tempered steels. 1333-1346A

Chromium molybdenum steels, Irradiation

- A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 3381-3390A

Chromium molybdenum steels, Mechanical properties

- High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
- Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voca equation. 3340-3343A
- Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A

Chromium molybdenum steels, Welding

- Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A

Chromium molybdenum vanadium steels, Phases (state of matter)

- Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A

Chromium steels, Mechanical properties

- High-temperature wear and deformation processes in metal matrix composites. 3135-3148A

Chromium steels, Microstructure

- Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A

Circulation

- Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B
- A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B

Clad metals, Mechanical properties

- Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A

Cladding

- Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A

Cleavage

- Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A

Cleavage, Microstructural effects

- A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A

Cleavage, Welding effects

- Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects. 3019-3029A

Coatings, Mechanical properties

- Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 483-486A

Cobalt, Binary systems

- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B

Cobalt, Composite materials

- Abnormal growth of faceted (WC) grains in a (Co) liquid matrix. 2809-2819A

Cobalt, Extraction

- A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B

Cobalt base alloys, Claddings

- The wear behavior between hardfacing materials. 3639-3648A

Cobalt base alloys, Crystal growth

- Microstructure of Cu-Co alloys solidified at various supercoolings. 4049-4059A

Cobalt base alloys, Magnetic properties

- Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A

Cobalt base alloys, Phase transformations

- High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. I. Plate interfaces and growth ledges. 3362-3370A
High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. II. Plate intersections, extended defects, and nucleation mechanisms. 3371-3380A

Cobalt compounds, Powder technology

- Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A

Coercive force

- Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A

Coercive force, Heating effects

- Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A

Cold rolling

- The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A

Cold rolling, Quality control

- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A

Cold working

- Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A

Columnar structure, Temperature effects

- Some consequences of thermosolutal convection: the grain structure of castings. 569-581A

Combustion

- Communication: On the in situ formation of TiC and Ti₂C reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A

- Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
Extending the compositional limit of combustion-synthesized B₄C-TiB₂ composites by field activation. 475-480B

Combustion, Temperature effects

- Modeling of sequential reactions during microprecipitation synthesis. 961-972A

Compacting

- Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A

Composite materials, Synthesis

- Microstructure and properties of Al₂O₃-Al(Si) and Al₂O₃-Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A

Compression tests

- The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A

Compressive strength

- Fracture and crushing strength of micrometer-size diamond abrasives used in microgrinding of optical glass. 1047-1053A

Compressive strength, Alloying effects

- Elevated temperature compressive properties of zirconium-modified NiAl. 2628-2641A
Elevated temperature compressive properties of N-doped NiAl. 3170-3180A

Compressive strength, Microstructural effects

- NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A

Compressive strength, Stress effects

- Prediction of fatigue crack formation in 304 stainless steel. 1267-1271A

Compressor blades, Nondestructive testing

- Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis. 3682-3687A

Computation

- A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B

Computer simulation

- Materials and society—impacts and responsibilities. 337-350B
Nucleation controlled solidification kinetics. 533-547A
Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
Mathematical modeling of tundish operation and flow control to reduce transition slabs. 745-756B
Solid-state contributions to densification during liquid-phase sintering. 901-909B
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B
Computer simulation of reversible martensitic transformations. 1187-1201A
Computer simulation of ledge migration under elastic interaction. 1489-1498A
Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
Simulation of the hot-tension test under cavitating conditions. 3112-3119A

Concentrates (ores)

- The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. 567-576B

Concentration (composition)

- Intermixing model of continuous casting during a grade transition. 617-632B
Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation. 1799-1805A
Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
Modeling of microsegregation in macrosegregation computations. 2314-2327A

Consolidation

- Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A

Contact angle, Temperature effects

- Variation of contact angles with temperature and time in the Al-Al₂O₃ system. 51-55B

Continuous annealing

- Modeling recovery and recrystallization kinetics in cold-rolled Ti-Nb stabilized interstitial-free steel. 3410-3423A

Continuous cast shapes, Crystal growth

- Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B

Continuous cast shapes, Diffusion

- Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 999-1014B

Continuous casting

- Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields. 457-464B
- Intermixing model of continuous casting during a grade transition. 617-632B
- Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 672-685B
- Prediction of grain structures in various solidification processes. 695-705A
- Cold model study of the surface profile in a continuous slab casting mold: effect of second phase. 695-697B
- Mathematical modeling of tundish operation and flow control to reduce transition slabs. 745-756B
- A water model study of the flow asymmetry inside a continuous slab casting mold. 757-764B
- Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 999-1014B
- Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B
- Convection**
- Some consequences of thermosolutal convection: the grain structure of castings. 569-581A
- Time dependence of tip morphology during cellular/dendritic arrayed growth. 1111-1119A
- Convection, Field effects**
- Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 1095-1110A
- Cooling rate**
- Solidification of particle-reinforced metal-matrix composites. Radioscopic visualization of isothermal solidification of eutectic Ga-In alloy. 663-671B
- Prediction of dendrite arm spacing for low alloy steel casting processes. 686-689B
- Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 689-693B
- Ferrite nucleation and growth during continuous cooling. Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 999-1014B
- The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy. Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 1544-1553A
- Cooling rate, Pressure effects**
- The squeeze casting of hypoeutectic binary Al-Cu. 1554-1568A
- Copper, Alloying additive**
- Retardation of intermetallic phase formation in experimental superferrous stainless steels. 3983-3991A
- The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 4075-4083A
- Copper, Binary systems**
- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 4121-4132A
- Generalized enthalpy method for multicomponent phase change. 2436-2444A
- Copper, Composite materials**
- Creep deformation of dispersion-strengthened copper. Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3424-3430A
- Copper, Crystal growth**
- Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1217-1227A
- Copper, Diffusion**
- Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique. 3700-3717A
- Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 725-730A
- Copper, Extraction**
- Kinetics of the flash converting of MK (chalcoite) concentrate. Kinetics of sulfation of chalcopryite with steam and oxygen in the presence of ferric oxide. 2934-2946A
- Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 163-175B
- Copper, Forming**
- Reply: Dynamic materials model. Basis and principles. 465-474B
- Copper, Mechanical properties**
- The inter-relationship between grain boundary sliding and cavitation during creep of polycrystalline copper. 827-838B
- Increased ductility in high velocity electromagnetic ring expansion. 901-907A
- Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 1837-1844A
- Plastic zones and fatigue-crack closure under plane-strain double slip. 3346-3348A
- 3491-3502A

Copper, Oxidation

- Oxidation-reduction equilibrium of $\text{Cu}^{2+}/\text{Cu}^+$ in binary alkaline sulfate melts. 385-392B
- Copper, Powder technology**
- Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B
- Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
- Milling dynamics. III. Integration of local and global modeling of mechanical alloying devices. 1999-2004A
- Copper, Quaternary systems**
- Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Copper, Reactions (chemical)**
- Behavior of antimony(III) during copper electrowinning in chloride solutions. 157-162B
- Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Copper, Refining**
- Fundamental studies of copper anode passivation during electrorefining. I. Development of techniques. 393-398B
- Fundamental studies of copper anode passivation during electrorefining. II. Surface morphology. 610-616B
- The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
- Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Copper, Solubility**
- Solid-state contributions to densification during liquid-phase sintering. 901-909B
- Copper, Ternary systems**
- Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
- Copper base alloys**
- Thermoelastic martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
- Copper base alloys, Composite materials**
- Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
- Permeability of microporous carbon preforms. 3669-3674A
- Wear and friction behavior of metal impregnated microporous carbon composites. 3727-3738A
- Copper base alloys, Corrosion**
- Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply. 819-821A
- Copper base alloys, Crystal growth**
- Microstructure of Cu-Co alloys solidified at various supercoolings. 4049-4059A
- Copper base alloys, Diffusion**
- Average effective interdiffusion coefficients and the Matano plane composition. 2504-2509A
- Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Copper base alloys, Forming**
- Reply: Dynamic materials model. Basis and principles. 235-236A
- Copper base alloys, Mechanical properties**
- Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
- The characteristics of cavitation in superplastic metals and ceramics. 873-878A
- A model study of cavity growth in superplasticity using single premachined holes. 2532-2539A
- Copper base alloys, Microstructure**
- Prediction of grain structures in various solidification processes. 695-705A
- Copper base alloys, Phase transformations**
- A new characterization method of the microstructure using the macroscopic composition gradient in alloys. 945-949A
- Thermoelastic martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
- Copper base alloys, Phases (state of matter)**
- Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
- Formation of bainite in ferrous and nonferrous alloys through sympathetic nucleation and ledge growth mechanism. 1533-1543A
- Copper compounds, Synthesis**
- Synthesis of nanocrystalline Ni_3Cu by sol-gel route. 4213-4216A

Corrosion environments			
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment.	471-476A		
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach.	1313-1325A		
Stress corrosion cracking of pressure vessel steels in high-temperature caustic aluminate solutions.	1327-1331A		
Corrosion fatigue			
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels.	2678-2685A		
Corrosion fatigue, Heating effects			
Corrosion fatigue in nitrocarburized quenched and tempered steels.	1333-1346A		
Corrosion potential, Alloying effects			
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide.	1693-1699A		
Corrosion rate			
Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis.	185-193B		
Corrosion resistance			
The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method.	1951-1962A		
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites.	2653-2662A		
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956.	3809-3816A		
Corrosion resistance, Alloying effects			
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide.	1693-1699A		
Corrosion resistance, Heating effects			
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels.	2881-2887A		
Corrosion resistance, Microstructural effects			
Retardation of intermetallic phase formation in experimental superferritic stainless steels.	2436-2444A		
Corrosion resistance, Welding effects			
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel.	3601-3611A		
Corrosion resistant steels			
$M_{23}C_6$ carbide equilibria in the Fe-Cr-C system.	701-704B		
Corrosive wear			
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites.	2653-2662A		
Crack closure			
Plastic zones and fatigue-crack closure under plane-strain double slip.	3491-3502A		
Crack closure, Composition effects			
Growth behavior of microstructurally short cracks in the 6061 aluminum alloy with and without 22 vol.% SiC whiskers.	2013-2021A		
Crack initiation			
An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites.	1709-1720A		
Deformation behavior of an Al-3.37 wt.% Li alloy.	2274-2284A		
Copper-bearing high-strength low-alloy steels: the influence of microstructure on the initiation and growth of small fatigue cracks.	2540-2556A		
Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite.	2843-2851A		
Ballistic impact behavior of multilayered armor plates processed by hardfacing.	3335-3340A		
Crack initiation, Coating effects			
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I.	353-361A		
Crack initiation, Deformation effects			
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips.	1241-1250A		
Crack initiation, Heating effects			
A strain-based fracture model for stress corrosion cracking of low-alloy steels.	291-304A		
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718.	785-790A		
Crack initiation, Impurity effects			
The effect of hydrogen on the fracture of alloy X-750.	101-110A		
Crack initiation, Microstructural effects			
Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces.	213-219A		
Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy.	829-837A		
Crack initiation, Stress effects			
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique.	205-211A		
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H.	255-267A		
Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite.	459-465A		
Detecting stable crack onset at ductile-brittle transition in steels.	469-471A		
Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites.	486-490A		
Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply.	819-821A		
Mechanisms of high-temperature fatigue failure in alloy 800H.	851-861A		
Prediction of fatigue crack formation in 304 stainless steel.	1267-1271A		
Crack initiation, Temperature effects			
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model.	119-127B		
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot.	129-137B		
Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking.	363-369A		
Crack initiation, Welding effects			
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects.	3019-3029A		
Crack opening displacement			
Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions.	3530-3541A		
Crack opening displacement, Welding effects			
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects.	3019-3029A		
Crack propagation			
Copper-bearing high-strength low-alloy steels: the influence of microstructure on the initiation and growth of small fatigue cracks.	2540-2556A		
Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite.	2843-2851A		
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites.	3007-3018A		
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al.	3128-3134A		
Plastic zones and fatigue-crack closure under plane-strain double slip.	3491-3502A		
Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions.	3530-3541A		
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite.	3801-3808A		
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage.	3841-3851A		
Crack propagation, Alloying effects			
Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy.	1293-1302A		
Crack propagation, Composition effects			
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys.	490-493A		
Growth behavior of microstructurally short cracks in the 6061 aluminum alloy with and without 22 vol.% SiC whiskers.	2013-2021A		
Crack propagation, Deformation effects			
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips.	1241-1250A		
Crack propagation, Diffusion effects			
Hydrogen-induced cleavage fracture of Fe ₃ Al-based intermetallics.	3949-3956A		
Crack propagation, Environmental effects			
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment.	471-476A		
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach.	1313-1325A		
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels.	2678-2685A		
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel.	3601-3611A		
Crack propagation, Heating effects			
A strain-based fracture model for stress corrosion cracking of low-alloy steels.	291-304A		
Crack propagation, Impurity effects			
The effect of hydrogen on the fracture of alloy X-750.	101-110A		

Crack propagation, Microstructural effects

- The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
- Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
- Bridge toughening enhancement in double-notched MoSi₂/Nb model composites. 909-921A
- Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disulfide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
- Crack propagation, Radiation effects**
- The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll. 3149-3161A
- Crack propagation, Stress effects**
- Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
- Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
- Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
- Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
- Detecting stable crack onset at ductile-brittle transition in steels. 469-471A
- Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A
- Time-dependent, environmentally assisted crack growth in Nicalon-fiber-reinforced SiC composites at elevated temperatures. 839-849A
- Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
- Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Crack propagation, Temperature effects**
- Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model. 119-127B
- Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
- Isothermal fatigue of an aluminate-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A
- Crack propagation, Welding effects**
- Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Cracking (fracturing)**
- Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1899-1907A
- Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
- Solidification of an alloy 625 weld overlay. 3612-3620A
- Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 4095-4111A
- Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
- Cracks**
- Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Creep (materials)**
- Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. 2837-2842A
- Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
- Creep (materials), Microstructural effects**
- Creep deformation of dispersion-strengthened copper. 1217-1227A
- Preferential coarsening of γ' precipitates in Inconel 718 during creep. 3391-3398A
- Creep (materials), Stress effects**
- Time-dependent, environmentally assisted crack growth in Nicalon-fiber-reinforced SiC composites at elevated temperatures. 839-849A
- Creep life**
- Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Creep life, Microstructural effects**
- Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
- The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition. 1273-1281A

- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Creep life, Stress effects**
- Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
- Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
- Creep rate**
- The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Creep rate, Microstructural effects**
- Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A
- Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
- Effect of iron on ductility and cavitation in the superplastic An-22% Al eutectoid. 863-872A
- On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys. 879-890A
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Creep rate, Stress effects**
- Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
- Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Creep rupture strength**
- Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Creep rupture strength, Microstructural effects**
- On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys. 879-890A
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Creep strength, Alloying effects**
- Elevated temperature compressive properties of N-doped NiAl. 3170-3180A
- Creep strength, High temperature effects**
- High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A
- High-temperature deformation properties of NiAl single crystals. 1229-1240A
- Creep strength, Microstructural effects**
- Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A
- Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
- The inter-relationship between grain boundary sliding and cavitation during creep of polycrystalline copper. 901-907A
- Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
- Creep strength, Stress effects**
- Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
- Rafting in superalloys. 513-530A
- Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
- Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
- Creep strength, Temperature effects**
- Enhanced ductility in coarse-grained Al-Mg alloys. 343-352A
- Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-489A
- Creep tests**
- An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A

- Cryolite**
Electrical conductivity of molten cryolite based mixtures obtained with a tube type cell made of pyrolytic boron nitride. 255-261B
- Cryolite, Reactions (chemical)**
Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. The transported entropy of Na⁺ in solid state cryolite. 739-744B
788-793B
- Crystal defects**
High-resolution electron microscopy analysis of structural defects in a (2/1, 5/3)-type approximant of a decagonal quasicrystal of an Al-Pd-Mn alloy. 2911-2915A
- Crystal growth**
Time dependence of tip morphology during cellular/dendritic arrayed growth. 1111-1119A
Crystal shapes and phase equilibria: a common mathematical basis. 1431-1440A
The Rayleigh instability and the origin of rows of droplets in the monotectic microstructure of zinc-bismuth alloys. 2053-2057A
Modeling of ferrite growth in nodular cast iron. 2209-2220A
- Crystal growth, Composition effects**
Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
- Crystal growth, Field effects**
Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 1095-1110A
- Crystal structure**
Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique. 318-322B
The inter-relationship between grain boundary sliding and cavitation during creep of polycrystalline copper. 901-907A
Crystal shapes and phase equilibria: a common mathematical basis. 1431-1440A
Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
Thermoelastic martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures. 2888-2896A
- Crystal structure, Alloying effects**
Mechanical alloying of Nb-Al powders. 41-48A
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
- Crystal structure, Coating effects**
Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Crystal structure, Deformation effects**
Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. 2947-2957A
- Crystal structure, Heating effects**
Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
Neutron diffraction study of austempered ductile iron. 923-928A
- Crystal structure, Stress effects**
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
- Crystal structure, Temperature effects**
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Crystallization**
Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. 739-744B
Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A
- Crystallization, Alloying effects**
The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 3424-3430A
- Crystallization, Temperature effects**
Crystallization of amorphous alloys. 549-555A
- Crystals**
An optical method for determining the surface orientation of crystals. 2057-2061A
- Current density**
Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells. Effect of baking temperature and anode current density on anode carbon consumption. 19-27B
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 177-183B
483-486A
- Cutting tool materials, Synthesis**
Synthesis of full-density nanocrystalline tungsten carbide by reduction of tungstic oxide at room temperature. 4210-4213A
- Cutting tools, Materials selection**
Synthesis of full-density nanocrystalline tungsten carbide by reduction of tungstic oxide at room temperature. 4210-4213A
- Cyanidation**
Electrochemical behavior of the dissolution of gold-silver alloys in cyanide solutions. 355-361B
- Cyclic loads**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
- Damage**
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Damage, Stress effects**
Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Damage tolerance**
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Damage tolerance, Stress effects**
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 891-900A
- Damping capacity**
Analysis of damping in particle-reinforced superplastic zinc composites. 2565-2573A
- Damping capacity, Composition effects**
The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2368-2373A
- Decomposition reactions**
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels. 29-40A
A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A
- Deep drawing**
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Deformation**
Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A
Simulation of the hot-tension test under cavitating conditions. Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy. 3112-3119A
Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 3478-3490A
Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4095-4111A
4193-4204A
- Deformation, High temperature effects**
High-temperature deformation properties of NiAl single crystals. 1229-1240A
- Deformation, Temperature effects**
Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V. 3957-3962A
- Deformation mechanisms**
Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. 1869-1876A
Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy. 3478-3490A
Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Deformation resistance**
Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Deformation resistance, Microstructural effects**
Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Deformation resistance, Temperature effects**
Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
- Dendritic structure**
Communication: Mechanical deformation of dendrites by fluid flow. 229-232A
Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A

- Interface attachment kinetics in alloy solidification.
Prediction of dendrite arm spacing for low alloy steel casting processes.
High-speed imaging and analysis of the solidification of under-cooled nickel melts.
Generalized enthalpy method for multicomponent phase changes.
On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys.
Time dependence of tip morphology during cellular/dendritic arrayed growth.
The Rayleigh instability and the origin of rows of droplets in the monotectic microstructure of zinc-bismuth alloys.
Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys.
Orientation dependence of primary dendrite spacing.
Equiaxed dendritic solidification with convection. I. Multiscale/multiphase modeling.
Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy.
Equiaxed dendritic solidification with convection. III. Comparisons with $\text{NH}_4\text{Cl-H}_2\text{O}$ experiments.
Microstructure of Cu-Co alloys solidified at various supercoolings.
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. I. Model development and discussion.
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting.
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy.
- Dendritic structure, Alloying effects**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013.
The breakdown of single-crystal solidification in high refractory nickel-base alloys.
- Dendritic structure, Cooling effects**
Scaling of intragranular dendritic microstructure in ingot solidification.
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations.
The effect of bulk flow concentration on diffusion coupling between dendrites.
Solidification of binary hypoeutectic alloy matrix composite castings.
Numerical modeling of cellular/dendritic array growth: spacing and structure predictions.
Prediction of grain structures in various solidification processes.
Macrosegregation during dendritic arrayed growth of hypoeutectic Pb-Sn alloys: influence of primary arm spacing and mushy zone length.
- Dendritic structure, Deformation effects**
Precipitation behavior in a medium carbon, Ti-V-N microalloyed steel.
- Dendritic structure, Field effects**
Convection during thermally unstable solidification of Pb-Sn in a magnetic field.
- Dendritic structure, Heating effects**
Effect of superheat on the solidification structures of AISI 310S austenitic stainless steel.
Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy.
- Dendritic structure, Stress effects**
Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy.
- Dendritic structure, Temperature effects**
Overview of geometric effects on coarsening of mushy zones.
Some consequences of thermosolutal convection: the grain structure of castings.
Morphological instabilities of lamellar eutectics.
The phase field method: simulation of alloy dendritic solidification during recalcification.
- Densification**
Theoretical modeling of densification during activated solid-state sintering.
Solid-state contributions to densification during liquid-phase sintering.
Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends.
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control.
- Densification, Pressure effects**
Synthesis of RuAl by reactive powder processing.
- 671-686A
689-693B
863-868B
869-879B
879-890A
1111-1119A
2053-2057A
2305-2313A
2727-2739A
2754-2764A
2785-2783A
2784-2795A
4049-4059A
4061-4074A
4075-4083A
4085-4093A
19-27A
1081-1094A
101-113B
415-429A
477-480A
595-609A
611-623A
695-705A
1353-1362A
1149-1165A
1095-1110A
287-296B
809-818A
829-837A
557-567A
569-581A
635-656A
657-669A
441-450A
901-909B
2130-2139A
2140-2150A
3688-3699A
- Density**
The effect of Mo addition on the liquid-phase sintering of W heavy alloy.
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al.
- Density, Alloying effects**
Solid-state contributions to densification during liquid-phase sintering.
- Deoxidizing**
Activities in $\text{MnO-SiO}_2\text{-Al}_2\text{O}_3$ slags and deoxidation equilibria of manganese and silicon.
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO_2 system and the standard Gibbs free energies of formation of CaZrO_3 from CaO and ZrO_2 .
Thermodynamic properties of oxygen in yttrium-oxygen solid solutions.
The measurement of hydrogen activities in molten copper using an oxide protonic conductor.
Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy.
- Dephosphorizing**
Thermodynamics of phosphorus in molten silicon.
- Deposition**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy.
- Desorption**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity.
- Desorption, Temperature effects**
Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts.
- Desulfurizing**
Thermodynamics of sulfur in the BaO-MnO-SiO_2 flux system.
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO_2 system and the standard Gibbs free energies of formation of CaZrO_3 from CaO and ZrO_2 .
- Diamond pyramid hardness**
Plastic zone and pileup around large indentations.
- Diamond pyramid hardness, Alloying effects**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/ Al_2O_3 metal matrix composites.
- Diamond pyramid hardness, Composition effects**
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution.
- Diamond pyramid hardness, Microstructural effects**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L_{12} phase field.
Precipitation in lead-calcium alloys containing tin.
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites.
- Diamond pyramid hardness, Radiation effects**
The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll.
- Diamonds, Coatings**
Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment.
- Die casting**
The design of feed systems for thin-walled zinc high-pressure die castings.
- Die steels, Mechanical properties**
The wear behavior between hardfacing materials.
- Differential equations**
Mathematical modeling of tundish operation and flow control to reduce transition slabs.
- Differential thermal analysis**
A study of the thermal decomposition of BaCO_3 .
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous $\text{Al}_{53}\text{Ta}_{47}$ alloy powders.
- Diffusion**
Probing the initial stage of synthesis of $\text{Al}_2\text{O}_3/\text{Al}$ composites by directed oxidation of Al-Mg alloys.
Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique.
Theoretical modeling of densification during activated solid-state sintering.
Microstructure of Al_2O_3 fiber-reinforced superalloy (Inconel 718) composites.
Intermixing model of continuous casting during a grade transition.
The characteristics of cavitation in superplastic metals and ceramics.
- 3120-3125A
3126-3134A
901-909B
263-270B
658-662B
839-845B
929-935B
967-972B
937-941B
604-609B
371-379A
241-253B
652-657B
658-662B
3793-3800A
2005-2012A
483-486A
71-79A
1668-1675A
3007-3018A
3149-3161A
2293-2296A
115-118B
3639-3648A
745-756B
409-416B
3267-3278A
43-50B
318-322B
441-450A
451-458A
617-632B
873-878A

- Ostwald ripening in ternary alloys. 937-943A
 Creep deformation of dispersion-strengthened copper. 1217-1227A
 The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys. 1655-1667A
 Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels. 1815-1821A
 Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
 Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A
 Modeling of ferrite growth in nodular cast iron. 2209-2220A
 Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
 Modeling of microsegregation in macrosegregation computations. 2314-2327A
 Infrared transient-liquid-phase joining of SCS-6/ β 21S titanium matrix composite. 4011-4018A
- Diffusion, Alloying effects**
 Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 203-211B
 Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
- Diffusion, Cooling effects**
 Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
 The effect of bulk flow concentration on diffusion coupling between dendrites. 477-480A
 Bainite in the light of rapid continuous cooling information. 1499-1510A
 Ferrite nucleation and growth during continuous cooling. 1544-1553A
- Diffusion, Deformation effects**
 Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1688A
- Diffusion, Heating effects**
 Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
 Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique. 725-730A
 Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
 Transition between internal and external nitridation of Ni-Ti alloys. 1606-1617A
- Diffusion, High temperature effects**
 Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
- Diffusion, Pressure effects**
 Pressure dependence of anomalous diffusion of zirconium in β -titanium. 1807-1814A
- Diffusion, Radiation effects**
 Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A
- Diffusion, Stress effects**
 A study on coherency strain and precipitate morphology via a discrete atom method. 1449-1459A
 Computer simulation of ledge migration under elastic interaction. 1489-1498A
- Diffusion rate, Microstructural effects**
 Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Diffusion welding**
 Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Diffusivity**
 Average effective interdiffusion coefficients and the Matano plane composition. 2504-2509A
- Diffusivity, Heating effects**
 Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique. 725-730A
- Direct chill casting**
 Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model. 119-127B
 Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
 Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- Directional solidification**
 Hydrogen effects on directional solidification of tellurium-doped cast irons. 496-498A
 Effects of flow on morphological stability during directional solidification. 583-593A
 Solidification of binary hypoeutectic alloy matrix composite castings. 595-609A
 Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
- Prediction of grain structures in various solidification processes. 695-705A
 Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
 Time dependence of tip morphology during cellular/dendritic arrayed growth. 1111-1119A
 Macrosegregation during dendritic arrayed growth of hypoeutectic Pb-Sn alloys: influence of primary arm spacing and mushy zone length. 1353-1362A
 Directional solidification of white cast iron. 2328-2337A
 Transitions between type A flake, type D flake, and coral graphite eutectic structures in cast irons. 2740-2753A
- Directional solidification, Field effects**
 Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 1095-1110A
- Directionally solidified eutectics, Mechanical properties**
 The fracture toughness of niobium-based, in situ composites. 2518-2531A
 The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
 Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
 The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Dislocation density**
 Creep deformation of dispersion-strengthened copper. 1217-1227A
 Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
 The control of grain size and distribution of particles in a (6061 alloy)/ $m(\text{Al}_2\text{O}_3)_p$ composite by solutionizing treatment. 2023-2034A
- Dislocation density, Composition effects**
 Electron microscopic study of Cr_2N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Dislocation density, Deformation effects**
 Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A
 The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
- Dislocation density, High temperature effects**
 High-temperature deformation properties of NiAl single crystals. 1229-1240A
- Dislocation density, Radiation effects**
 A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 3381-3390A
- Dislocation mobility**
 Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
- Dislocation mobility, Temperature effects**
 Rafting in superalloys. 513-530A
- Dislocation pinning, Stress effects**
 Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
- Dislocations**
 NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
 A high resolution transmission electron microscopy study of interfaces between the γ , B2, and α_2 phases in a Ti-Al-Mo alloy. 1618-1629A
 Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
 Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
 High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. I. Plate interfaces and growth ledges. 3362-3370A
- Dislocations, Deformation effects**
 Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1688A
- Dislocations, Stress effects**
 Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
 Molecular dynamics simulation of martensitic transformations in NiAl. 1476-1488A
 Computer simulation of ledge migration under elastic interaction. 1489-1498A
- Dislocations, Temperature effects**
 A new characterization method of the microstructure using the macroscopic composition gradient in alloys. 945-949A
- Dispersion hardening**
 Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
 Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A

Dispersion hardening alloys, Crystal growth Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel.	1963-1978A	Ductility Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. Thermoelectric martensite and shape memory effect in ductile Cu-Al-Mn alloys. Investigation of the reaction zone between TiAl and molybdenum. The fracture toughness of niobium-based, in situ composites. Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. Simulation of the hot-tension test under cavitating conditions. Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. Flow and fracture of bimaterial systems based on aluminum alloys. Mathematical modeling of the extrusion of 6061/Al ₂ O ₃ /20p composite.	1403-1405A 1951-1962A 2187-2195A 2285-2292A 2518-2531A 2837-2842A 3112-3119A 3781-3792A 3937-3947A 4095-4111A
Dispersion hardening alloys, Diffusion Hydrogen trapping and permeation in nickel thoria.	2495-2503A	Ductility, Alloying effects Elevated temperature compressive properties of zirconium-modified NiAl. Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. Elevated temperature compressive properties of N-doped NiAl.	2628-2641A 3089-3094A 3170-3180A
Dispersion hardening alloys, Mechanical properties Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy.	3861-3870A 3913-3923A	Ductility, Coating effects Isothermal fatigue of an aluminide-coated single-crystal superalloy. I.	353-361A
Dispersions, High temperature effects Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach.	3861-3870A	Ductility, Composition effects Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. Mechanical properties of Ru-Ni-Al alloys. High-temperature behavior of precious metal base composites.	483-486A 498-502A 1395-1400A 2642-2652A
Dissimilar materials, Bonding Flow and fracture of bimaterial systems based on aluminum alloys.	3937-3947A	Ductility, Cooling effects Rapid solidification processing of a Mg-Li-Si-Ag alloy. The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy.	1363-1370A 3983-3991A
Dissimilar metals, Welding Forming of tailor-welded blanks.	2605-2616A	Ductility, Corrosion effects Shear ligament phenomena in Fe ₃ Al intermetallics and micro-mechanics of shear ligament toughening.	3817-3825A
Dissipation, Deformation effects Communication: Discussion of "Modeling of dynamic materials behavior. A critical evaluation of the dissipator power cocontent approach".	232-235A	Ductility, Deformation effects Micronecking and fracture in cavitated superplastic materials. Increased ductility in high velocity electromagnetic ring expansion. Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe ₃ Al.	1043-1046A 1837-1844A 2985-2993A
Dissolution Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique. Electrochemical behavior of the dissolution of gold-silver alloys in cyanide solutions. Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation.	318-322B 355-361B 391-400A 1379-1394A 1799-1805A	Ductility, Heating effects Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si.	1700-1708A
Dissolution, Alloying effects Solubility of carbon in CaO-Al ₂ O ₃ melts. Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron.	57-64B 846-851B	Ductility, Impurity effects The effect of hydrogen on the fracture of alloy X-750.	101-110A
Dissolution, Coating effects Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings.	381-390A	Ductility, Microstructural effects Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L1 ₂ phase field. Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. Communication: Mechanical deformation of dendrites by fluid flow. Mechanical behavior and properties of mechanically alloyed aluminum alloys. Effect of iron on ductility and cavitation in the superplastic Al-22% Al eutectoid. Bridge toughening enhancement in double-notched MoSi ₂ /Nb model composites. The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. On microsuperplasticity in AA7475 domes. Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. Deformation behavior of an Al-3.37 wt.% Li alloy. Microstructure and mechanical behavior of Cr-Cr ₂ Hf in situ intermetallic composites. Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites.	71-79A 111-118A 229-232A 737-745A 863-872A 909-921A 1015-1020A 1400-1403A 2140-2150A 2274-2284A 2583-2592A 3739-3746A 3893-3901A
Dissolution, Heating effects Microstructural aspects of the dissolution and melting of Al ₂ Cu phase in Al-Si alloys during solution heat treatment.	1785-1798A	Ductility, Stress effects Detecting stable crack onset at ductile-brittle transition in steels. Effect of thermal cycling on the mechanical properties of 350 grade maraging steel.	469-471A 757-761A
Distortion Modeling of ingot distortions during direct chill casting of aluminum alloys.	3214-3225A	Ductility, Temperature effects Enhanced ductility in coarse-grained Al-Mg alloys.	343-352A
Domain walls Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy.	1687-1692A		
Dual phase steels, Mechanical properties Theoretical calculation of the stress-strain behavior of dual-phase metals with randomly oriented spheroidal inclusions.	2359-2365A		
Ductile brittle transition Nonequilibrium grain-boundary segregation and ductile-brittle-ductile transition in Fe-Mn-Ni-Ti age-hardening alloy.	3059-3065A		
Ductile brittle transition, Corrosion effects Shear ligament phenomena in Fe ₃ Al intermetallics and micro-mechanics of shear ligament toughening.	3817-3825A		
Ductile brittle transition, Welding effects Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel. Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects.	2574-2582A 3019-3029A		
Ductile fracture Microstructure and properties of Al ₂ O ₃ -Al(Si) and Al ₂ O ₃ -Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. Simulation of the hot-tension test under cavitating conditions.	2122-2129A 3043-3058A 3112-3119A		
Ductile fracture, Microstructural effects The cracking mechanism of silicon particles in an A357 aluminum alloy.	3558-3568A		
Ductile fracture, Stress effects Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply.	819-821A		

- Ductility, Welding effects**
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Duplex stainless steels**
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
Structural stability of super duplex stainless weld metals and its dependence on tungsten and copper. 2196-2208A
- Duplex stainless steels, Machining**
Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Duplex stainless steels, Microstructure**
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
- Duplex stainless steels, Welding**
Structural stability of super duplex stainless weld metals and its dependence on tungsten and copper. 2196-2208A
- Dynamics**
Dynamic Behavior of Materials. II.
Milling dynamics. II. Dynamics of a SPEX mill and a one-dimensional mill. 1991-1997A
Milling dynamics. III. Integration of local and global modeling of mechanical alloying devices. 1999-2004A
- Dysprosium, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Economics**
Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization. 1031-1044B
- Edge dislocations, Heating effects**
Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
- Elastic anisotropy**
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- Elastic constants**
A comprehensive dynamical study of nucleation and growth in a one-dimensional shear martensitic transition. 1203-1216A
- Elastic constants, Stress effects**
Computer simulation of reversible martensitic transformations. A study on coherency strain and precipitate morphology via a discrete atom method. 1187-1201A
1449-1459A
- Elasticity, Deformation effects**
Communication: Discussion of "Modeling of dynamic materials behavior: A critical evaluation of the dissipator power cocontent approach". 232-235A
- Elasticity, Stress effects**
Effect of uniaxial stress on coarsening of precipitate clusters. 1460-1475A
- Electric fields**
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields. 445-455B
- Electric potential**
Chemical potentials of components of the system $\text{CaO}+\text{P}_2\text{O}_5+\text{Fe}_2\text{O}_3$ at 1673K. 595-603B
Controversy on the free energy of formation of CaO —additional evidence in support of thermochemical data. 647-651B
- Electrical steels, Rolling**
Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
- Electrochemistry**
Effect of baking temperature and anode current density on anode carbon consumption. 177-183B
Electrochemical behavior of the dissolution of gold-silver alloys in cyanide solutions. 355-361B
Chemical potentials of oxygen for mixtures of $\text{CaO(s)}+\text{Ca}_3\text{P}_2\text{O}_8\text{(s)}+(\text{CaO}+\text{P}_2\text{O}_5+\text{Fe}_2\text{O}_3)$ melts and $\text{Ca}_3\text{P}_2\text{O}_8\text{(s)}+\text{Ca}_3\text{P}_2\text{O}_8\text{(s)}+\text{CaO}+\text{P}_2\text{O}_5+\text{Fe}_2\text{O}_3$ melts. 375-378B
Fundamental studies of copper anode passivation during electrorefining. I. Development of techniques. 393-398B
- Electrodeposition**
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 483-486A
- Electrodeposition, Impurity effects**
Behavior of antimony(III) during copper electroplating in chloride solutions. 157-162B
- Electrodes, Materials selection**
Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Electrolysis**
Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis. 185-193B
Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. 739-744B
The transported entropy of Na^+ in solid state cryolite. 788-793B
Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Electrolysis, Temperature effects**
Electrical conductivity of molten cryolite based mixtures obtained with a tube type cell made of pyrolytic boron nitride. 255-261B
- Electrolytic cells**
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO_2 system and the standard Gibbs free energies of formation of CaZrO_3 from CaO and ZrO_2 . 658-662B
Preparation of pure silicon by electrowinning in a bytownite-cryolite melt. 895-900B
- Electrolytic cells, Development**
Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. 889-894B
- Electromagnetic fields**
Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A
- Electromagnetic testing**
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
- Electron beam welding**
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 785-790A
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Electron diffraction**
Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B
- Electron energy loss spectroscopy**
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Electron microscopy**
High-resolution electron microscopy analysis of structural defects in a (2/1, 5/3)-type approximant of a decagonal quasicrystal of an Al-Pd-Mn alloy. 2911-2915A
- Electronic structure, Composition effects**
Electron microscopic study of Cr_2N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Electronic structure, Radiation effects**
Sputter-induced pits on {100} nickel surfaces. 981-993A
- Electroplating**
Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B
- Electrorefining**
Fundamental studies of copper anode passivation during electrorefining. I. Development of techniques. 393-398B
Fundamental studies of copper anode passivation during electrorefining. II. Surface morphology. 610-616B
Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Electrowinning**
Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. 889-894B
Preparation of pure silicon by electrowinning in a bytownite-cryolite melt. 895-900B
- Electrowinning, Impurity effects**
Behavior of antimony(III) during copper electrorefining in chloride solutions. 157-162B
- Elongation**
Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. 1403-1405A
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
Simulation of the hot-tension test under cavitating conditions. 3112-3119A
Notch fracture in γ -titanium aluminides. 3903-3912A
- Elongation, Composition effects**
A study of the influence of mischmetal additions to Al-7Si-0.3Mg (LM 25/356) alloy. 1283-1292A
- Elongation, Deformation effects**
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A

- Elongation, Diffusion effects**
Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A
- Elongation, Impurity effects**
The effect of hydrogen on the fracture of alloy X-750. 101-110A
- Elongation, Microstructural effects**
Effect of iron on ductility and cavitation in the superplastic An-22% Al eutectoid. 863-872A
The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Elongation, Stress effects**
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
- Elongation, Temperature effects**
Enhanced ductility in coarse-grained Al-Mg alloys. 343-352A
- Embrittlement, Microstructural effects**
The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
- End uses**
Materials and society: Impacts and responsibilities. 1413-1426A
- Energy conservation**
Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. 889-894B
- Energy consumption**
The transported entropy of Na⁺ in solid state cryolite. 788-793B
- Energy consumption, Field effects**
Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. 889-894B
- Engine components**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
Materials and society—Impacts and responsibilities. 337-350B
- Engine components, Materials selection**
Wear behavior of aluminum-based metal matrix composites reinforced with a preform of aluminosilicate fiber. 2385-2389A
Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Engines, Materials selection**
Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Enthalpy**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Generalized enthalpy method for multicomponent phase change. 869-879B
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels. 1815-1821A
Modeling of microsegregation in macrosegregation computations. 2314-2327A
An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V. 3957-3962A
- Enthalpy, Composition effects**
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
- Entropy**
The transported entropy of Na⁺ in solid state cryolite. 788-793B
- Entropy, Composition effects**
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
- Epoxy resins, Composite materials**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A
- Equiaxed structure**
Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. 1951-1962A
Lamellar growth of eutectic equiaxed grains. 4205-4210A
- Equilibrium**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B
Inverse melting in binary systems: morphology and microscopy of catatectic alloys. 979-986B
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Eutectic reactions**
Generalized enthalpy method for multicomponent phase change. 869-879B
- Eutectics**
Radioscopic visualization of isothermal solidification of eutectic Ga-In alloy. 686-689B
Microstructural aspects of the dissolution and melting of Al₂Cu phase in Al-Si alloys during solution heat treatment. 1785-1798A
Directional solidification of white cast iron. 2328-2337A
Retrograde solubility in semiconductors. 2704-2707A
Transitions between type A flake, type D flake, and coral graphite eutectic structures in cast irons. 2740-2753A
- Eutectics, Mechanical properties**
High-temperature behavior of precious metal base composites. 2642-2652A
- Eutectics, Structural hardening**
Lamellar growth of eutectic equiaxed grains. 4205-4210A
- Eutectoid decomposition, Temperature effects**
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Eutectoids**
Discussion of "Effects of tensile stress on microstructural change of eutectoid Zn-Al alloy" and authors' reply. 3330-3335A
- Evaporation, Cooling effects**
Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results. 433-443B
- Expansion**
Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A
- Explosive cladding**
Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Explosive compacting**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Extrusion Ingots, Mechanical properties**
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- Extrusions, Heat treatment**
A process model for on-line quenching of aluminum extrusions. 501-508B
- Extrusions, Mechanical properties**
Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions. 3530-3541A
- Failure**
Failure characteristics of 6061/Al₂O₃/15_p and 2014/Al₂O₃/15_p composites as a function of loading rate. 3095-3107A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- Faraday effect**
Effect of baking temperature and anode current density on anode carbon consumption. 177-183B
- Fast nuclear reactors, Materials selection**
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Fatigue (materials)**
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
- Fatigue (materials), Environmental effects**
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment. 471-476A
- Fatigue (materials), Stress effects**
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Fatigue failure**
Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite. 2843-2851A
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A

- Fatigue life**
High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr. 2239-2251A
Copper-bearing high-strength low-alloy steels: the influence of microstructure on the initiation and growth of small fatigue cracks. 2540-2556A
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Fatigue life, Coating effects**
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I. 353-361A
- Fatigue life, Environmental effects**
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels. 2678-2685A
- Fatigue life, Heating effects**
Corrosion fatigue in nitrocarburized quenched and tempered steels. 1333-1346A
- Fatigue life, Microstructural effects**
The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition. 1273-1281A
- Fatigue life, Stress effects**
Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
Prediction of fatigue crack formation in 304 stainless steel. 1267-1271A
- Fatigue life, Temperature effects**
Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Fatigue limit, Heating effects**
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
- Fatigue strength**
Copper-bearing high-strength low-alloy steels: the influence of microstructure on the initiation and growth of small fatigue cracks. 2540-2556A
Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite. 2843-2851A
- Fatigue strength, Alloying effects**
Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy. 1293-1302A
- Fatigue strength, Composition effects**
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
- Fatigue strength, Heating effects**
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
- Fatigue strength, Microstructural effects**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Fatigue strength, Stress effects**
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A
Prediction of fatigue crack formation in 304 stainless steel. 1267-1271A
- Fatigue strength, Welding effects**
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Fatigue tests**
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- FCC metals, Metallography**
An optical method for determining the surface orientation of crystals. 2057-2061A
- Feeders, Design**
The design of feed systems for thin-walled zinc high-pressure die castings. 115-118B
- Ferrite**
The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
Effect of holding time in the ($\alpha+\gamma$) temperature range on toughness of specially austempered ductile iron. 1979-1989A
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
Modeling of ferrite growth in nodular cast iron. 2209-2220A
- Ferrite, Cooling effects**
The role of grain corners in nucleation. 480-483A
Ferrite nucleation and growth during continuous cooling. 1544-1553A
- Austenite decomposition during continuous cooling of an HSLA-80 plate steel.** 1554-1568A
Copper precipitation during continuous cooling and isothermal aging of A710 type steels. 1569-1584A
- Ferrite, Heating effects**
Neutron diffraction study of austempered ductile iron. 923-928A
Bainitic microstructures formed by split isothermal transformation in an Fe-C-Si-Mn-Mo steel. 1141-1147A
- Ferrite, Temperature effects**
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Ferritic stainless steels, Corrosion**
Retardation of intermetallic phase formation in experimental superferritic stainless steels. 2436-2444A
- Ferritic stainless steels, Mechanical properties**
Effects of nitrogen implantation on low cycle fatigue behavior of ferritic Fe-24Cr-4Al stainless alloy. 2663-2672A
- Ferritic stainless steels, Rolling**
Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
- Ferromanganese**
Reaction equilibria in the production of manganese ferroalloys. 5-17B
- Ferrous alloys**
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- Ferrous alloys, Atomic properties**
Thermodynamics and long-range order of nitrogen in γ -Fe₄N₁. 1055-1061A
Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A
- Ferrous alloys, Coatings**
Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Ferrous alloys, Composite materials**
Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3279-3291A
- Ferrous alloys, Corrosion**
Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Ferrous alloys, Crystal growth**
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 3424-3430A
- Ferrous alloys, Diffusion**
Average effective interdiffusion coefficients and the Matano plane composition. 2504-2509A
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Ferrous alloys, Heat treatment**
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₁₆N₂ nitride by interstitial ordering in martensite. 2160-2177A
- Ferrous alloys, Magnetic properties**
Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Ferrous alloys, Mechanical properties**
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 483-486A
Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe₃Al. 2985-2993A
Nonequilibrium grain-boundary segregation and ductile-brittle transition in Fe-Mn-Ni-Ti age-hardening alloy. 3059-3065A
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Ferrous alloys, Microstructure**
The role of grain corners in nucleation. 480-483A
Crystallization of amorphous alloys. 549-555A
- Ferrous alloys, Phase transformations**
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- Ferrous alloys, Phases (state of matter)**
Nucleation controlled solidification kinetics. 533-547A

- An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ -Fe₄N_{1.2} and ϵ -Fe₂N_{1.2}. The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1063-1071A
- Formation of bainite in ferrous and nonferrous alloys through sympathetic nucleation and ledge-wise growth mechanism. 1517-1532A
- Ferrous alloys, Powder technology**
- Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 1533-1543A
- Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 203-211B
- Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 1861-1867A
- Ferrous alloys, Solubility**
- Solubility of carbon in CaO-Al₂O₃ melts. 3126-3134A
- Ferrous alloys, Steel making**
- Influence of phosphorus addition on the surface tension of liquid iron and segregation of phosphorus on the surface of Fe-P alloy. 57-64B
- Ferrous alloys, Welding**
- Microstructural features of friction welded MA 956 superalloy material. 71-79B
- Fiber composites, Casting**
- Solidification of binary hypoeutectic alloy matrix composite castings. 4019-4029A
- Infiltration of fibrous preform by molten aluminum in a centrifugal force field. 595-609A
- Fiber composites, Fabrication**
- Liquid state infrared processing of SCS-6/Ti-6Al-4V composites. 4163-4169A
- An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites. 527-532B
- Fiber composites, Joining**
- Infrared transient-liquid-phase joining of SCS-6/ β 21S titanium matrix composite. 1709-1720A
- Fiber composites, Mechanical properties**
- Effective elastic moduli of fiber-matrix interfaces in high-temperature composites. 4011-4018A
- Time-dependent, environmentally assisted crack growth in Nicalon-fiber-reinforced SiC composites at elevated temperatures. 165-182A
- Bridge toughening enhancement in double-notched MoSi₂/Nb matrix composites. 839-849A
- The Bauschinger effect in a SiC/Al composite. 909-921A
- Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. 995-1001A
- Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1403-1405A
- Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 1899-1907A
- The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2035-2043A
- Wear behavior of aluminum-based metal matrix composites reinforced with a preform of aluminosilicate fiber. 2366-2373A
- Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite. 2385-2389A
- Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 2843-2851A
- Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3074-3080A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 3781-3792A
- Fiber composites, Oxidation**
- Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 4193-4204A
- Fiber composites, Phases (state of matter)**
- Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 3279-3291A
- Fiber composites, Reactions (chemical)**
- Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. 451-458A
- Investigation of the reaction zone between TiAl and molybdenum. 1379-1394A
- Structure of phases in the δ -Al₂O₃ fiber studied by convergent beam electron diffraction. 2285-2292A
- Fiber composites, Structural hardening**
- Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al₂O₃ metal matrix composites. 3318-3329A
- Fiber composites, Synthesis**
- Extending the compositional limit of combustion-synthesized B₄C-TiB₂ composites by field activation. 2005-2012A
- Fibers, Phases (state of matter)**
- Structure of phases in the δ -Al₂O₃ fiber studied by convergent beam electron diffraction. 475-480B
- Filaments, Mechanical properties**
- Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Finite element method**
- Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation. 81-99B
- Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
- Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
- A process model for on-line quenching of aluminum extrusions. Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 501-508B
- Prediction of grain structures in various solidification processes. 672-685B
- Effect of multiaxial stresses on creep damage of 316 stainless steel weldments. 695-705A
- Modeling of ingot distortions during direct chill casting of aluminum alloys. 891-900A
- Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3214-3225A
- Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3241-3249A
- Plastic zones and fatigue-crack closure under plane-strain double slip. 3279-3291A
- Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3491-3502A
- Notch fracture in γ -titanium aluminides. 3700-3717A
- Flow and fracture of bimaterial systems based on aluminum alloys. 3903-3912A
- Measurement of friction under sheet forming conditions. 3937-3947A
- Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 3971-3981A
- Flash smelting**
- Kinetics of the flash converting of MK (chalcoite) concentrate. Experimental study of splash generation in a flash smelting furnace. 4095-4111A
- Fluid dynamics**
- A water model study of the flow asymmetry inside a continuous slab casting mold. 163-175B
- Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 633-646B
- A one-phase model of the mixing of Al-SiC composite melt. 757-764B
- Fluid flow**
- Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 765-772B
- Cold model study of the surface profile in a continuous slab casting mold: effect of second phase. 1015-1023B
- A water model study of the flow asymmetry inside a continuous slab casting mold. 757-764B
- Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 765-772B
- Fluidized bed reduction**
- Preoxidation and hydrogen reduction of ilmenite in a fluidized bed reactor. 731-738B
- Flux core wire welding**
- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Fluxes**
- Controversy on the free energy of formation of CaO—additional evidence in support of thermochemical data. 647-651B
- Fluxes, Physical properties**
- Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
- Foams, Composite materials**
- Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Forging**
- An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites. 1709-1720A
- Formability**
- Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A
- High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
- Forming of tailor-welded blanks. 2605-2616A
- Measurement of friction under sheet forming conditions. 3971-3981A
- Formability, Microstructural effects**
- Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A

Fourier analysis

- Analysis of shell thickness irregularity in continuously cast mid-die carbon steel slabs using mold thermocouple data. 1045-1058B
- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A

Fractography

- Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
- Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A
- Shear ligament phenomena in Fe₃Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A
- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
- Notch fracture in γ -titanium aluminides. 3903-3912A
- Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A

Fracture mechanics

- Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
- High Temperature Fracture Mechanisms in Advanced Materials. 825-1136, 8 1/2 in. x 11 in., illustratedA
- Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach. 1313-1325A
- Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects. 3019-3029A
- Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
- Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A
- Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A

Fracture strength

- Failure characteristics of 6061/Al₂O₃/15₂ and 2014/Al₂O₃/15₂ composites as a function of loading rate. 3095-3107A
- Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A

Fracture strength, Composition effects

- A study of the influence of mischmetal additions to Al-7Si-0.3Mg (LM 25/356) alloy. 1283-1292A

Fracture strength, Deformation effects

- Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe₃Al. 2985-2993A

Fracture strength, Diffusion effects

- Nonequilibrium grain-boundary segregation and ductile-brittle transition in Fe-Mn-Ni-Ti age-hardening alloy. 3059-3065A

Fracture strength, Microstructural effects

- Mechanical behavior and properties of mechanically alloyed aluminum alloys. 737-745A
- Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
- The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
- Creep deformation of dispersion-strengthened copper. 1217-1227A

Fracture strength, Stress effects

- Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A

Fracture strength, Temperature effects

- Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-469A

Fracture toughness

- Microstructure and properties of Al₂O₃-Al(Si) and Al₂O₃-Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A
- The fracture toughness of niobium-based, in situ composites. 2518-2531A
- Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
- The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Notch fracture in γ -titanium aluminides. 3903-3912A

Fracture toughness, Alloying effects

- Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A

Fracture toughness, Composition effects

- Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A

Fracture toughness, Corrosion effects

- Shear ligament phenomena in Fe₃Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A

Fracture toughness, Heating effects

- Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels. 2510-2517A

Fracture toughness, Impurity effects

- Microsegregation of oxygen in Zr-2.5Nb alloy materials. 431-440A
- Effects of alkali-metal impurities on fracture toughness of 2090 Al-Li-Cu extrusions. 3530-3541A

Fracture toughness, Microstructural effects

- Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces. 213-219A
- A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Microstructure and mechanical behavior of Cr-Cr₂Hf in situ intermetallic composites. 2583-2592A
- The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
- Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
- Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A

Fracture toughness, Radiation effects

- The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll. 3149-3161A

Fracture toughness, Stress effects

- Detecting stable crack onset at ductile-brittle transition in steels. 469-471A

Fracture toughness, Welding effects

- Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel. 2574-2582A

Fracturing

- High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr. 2239-2251A
- The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
- Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A

Fracturing, Microstructural effects

- Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A

Free energy

- Controversy on the free energy of formation of CaO—additional evidence in support of thermochemical data. 647-651B
- Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO₂ system and the standard Gibbs free energies of formation of CaZrO₃ from CaO and ZrO₂. 658-662B
- Discussion of "Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams" and reply. 693-694B
- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
- Thermodynamics of phosphorus in molten silicon. 937-941B
- A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
- Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B
- Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Gibbs energies of formation of chromium carbides. 1919-1924A
- Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A

Free energy, Temperature effects

- Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams. 65-69B

Freezing

- An adaptive mesh refinement scheme for solidification problems. 707-717A

Friability

- Friability and crushing strength of micrometer-size diamond abrasives used in microgrinding of optical glass. 1047-1053A

Friction

- Measurement of friction under sheet forming conditions. 3971-3981A

Friction welding

- Microstructural features of friction welded MA 956 superalloy material. 4019-4029A

- Frictional wear**
 High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
 Ni₃Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
 Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed. 3513-3523A
 The wear behavior between hardfacing materials. 3639-3648A
 Wear and friction behavior of metal impregnated microporous carbon composites. 3727-3738A
- Functionally gradient materials, Mechanical properties**
 Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
 Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A
- Functionally gradient materials, Structural hardening**
 Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
- Fused salt electrolysis**
 Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. 889-894B
- Gadolinium, Binary systems**
 Inverse melting in binary systems: morphology and microscopy of catactetic alloys. 979-986B
- Gallium base alloys, Melting**
 Radioscopic visualization of isothermal solidification of eutectic Ga-In alloy. 686-689B
- Galvanized steels**
 Modeling iron enrichment in hot-dip galvanneal coatings on interstitial-free steels. 1132-1134A
- Galvanized steels, Surface properties**
 Measurement of friction under sheet forming conditions. 3971-3981A
- Galvanizing**
 Discussion of "The effect of steel chemistry on the formation of Fe-Zn intermetallic compounds of galvanneal-coated steel sheets" and authors' reply. 146-148B
 Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Gas metal arc welding**
 Dilution in single pass arc welds. 481-489B
 Solidification of an alloy 625 weld overlay. 3612-3620A
- Gas phases**
 Reaction equilibria in the production of manganese ferroalloys. 5-17B
- Gas phases, Cooling effects**
 Vacuum evaporation of KCl-NaCl salts. I. Vaporization-rate model and experimental results. 433-443B
- Gas phases, Temperature effects**
 A study of the thermal decomposition of BaCO₃. 409-416B
- Gas pipelines, Corrosion**
 Initiation of stress corrosion cracking for pipeline steels in a carbonate-bicarbonate solution. 2686-2691A
- Gas tungsten arc welding**
 Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation. 775-783A
- Gas turbine engines, Materials selection**
 Microstructural stability on aging of an α - β titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
 The fracture toughness of niobium-based, in situ composites. 2518-2531A
- Gases**
 Experimental study of splash generation in a flash smelting furnace. 633-646B
 Discussion of "Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams" and reply. 693-694B
 A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. 704-708B
- Germanium, Binary systems**
 Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
- Germanium, Extraction**
 The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. 567-576B
- Glow discharges**
 Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge. 401-405A
- Gold, Binary systems**
 Inverse melting in binary systems: morphology and microscopy of catactetic alloys. 979-986B
- Gold, Extraction**
 Electrochemical behavior of the dissolution of gold-silver alloys in cyanide solutions. 355-361B
- Gold, Recovering**
 Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Gold, Ternary systems**
 Thermodynamic investigations of the ternary Au-Sn-Zn system. 921-927B
- Grain boundaries**
 Modeling texture change during the static recrystallization of interstitial free steels. 155-164A
 The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
 Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
 Theoretical modeling of densification during activated solid-state sintering. 441-450A
 Effect of iron on ductility and cavitation in the superplastic An-22% Al eutectoid. 863-872A
 The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
 Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
 An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy. 2252-2262A
 Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
- Grain boundaries, Diffusion**
 Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A
- Grain boundaries, Heating effects**
 Evolution of microstructures in the nickel modified titanium tri-aluminides near the L1₂ phase field. 5-17A
 Surface morphology and compound layer pores of plasma nitrocarburized low carbon steel. 135-143A
 Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 785-790A
 Characterization of constitutional liquid film migration in nickel-base alloy 718. 2692-2703A
- Grain boundaries, Radiation effects**
 A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 3381-3390A
- Grain boundaries, Stress effects**
 Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
- Grain boundaries, Temperature effects**
 The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Grain boundary migration**
 Characterization of constitutional liquid film migration in nickel-base alloy 718. 2692-2703A
- Grain boundary sliding**
 The inter-relationship between grain boundary sliding and cavitation during creep of polycrystalline copper. 901-907A
- Grain growth**
 Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
 High-speed imaging and analysis of the solidification of undercooled nickel melts. 863-868B
 Generalized enthalpy method for multicomponent phase change. 869-879B
 The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition. 1273-1281A
 Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
 Austenite grain growth kinetics in Al-killed plain carbon steels. 3399-3409A
 Lamellar growth of eutectic equiaxed grains. 4205-4210A
- Grain growth, Alloying effects**
 Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 203-211B
- Grain growth, Coating effects**
 Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Grain growth, Cooling effects**
 Prediction of grain structures in various solidification processes. 695-705A
- Grain growth, Deformation effects**
 Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A

Grain growth, Heating effects

Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy.

493-498A

The control of grain size and distribution of particles in a (6061 alloy)_m/(Al₂O₃)_p composite by solutionizing treatment.

2023-2034A

Grain orientation

An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy.

2252-2262A

Grain refinement

The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method.

1951-1962A

Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys.

2305-2313A

Grain refinement, Impurity effects

Influence of chromium and impurities on the grain refining behavior of aluminum.

791-800A

Grain size

The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel.

281-290A

Theoretical modeling of densification during activated solid-state sintering.

441-450A

Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites.

451-458A

Mechanical behavior and properties of mechanically alloyed aluminum alloys.

737-745A

Effect of iron on ductility and cavitation in the superplastic Al-22% Al eutectoid.

863-872A

Creep deformation of dispersion-strengthened copper.

1217-1227A

The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method.

1951-1962A

Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys.

2305-2313A

Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al.

3126-3134A

Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels.

3773-3780A

Microstructure of Cu-Co alloys solidified at various supercoolings.

4049-4059A

Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling.

4133-4144A

Grain size, Alloying effects

Solid-state contributions to densification during liquid-phase sintering.

901-909B

Grain size, Cooling effects

Ferrite nucleation and growth during continuous cooling.

1544-1553A

Austenite decomposition during continuous cooling of an HSLA-80 plate steel.

1554-1568A

Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting.

4075-4083A

Grain size, Deformation effects

Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel.

1251-1266A

Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys.

1683-1686A

Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys.

2947-2957A

Microstructural evolution and superplastic deformation behavior of fine grain 5083AL.

3827-3839A

Grain size, Field effects

Characterization of titanium thin films prepared by bias assisted magnetron sputtering.

1057-1060B

Grain size, Heating effects

Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy.

493-498A

Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation.

775-783A

The control of grain size and distribution of particles in a (6061 alloy)_m/(Al₂O₃)_p composite by solutionizing treatment.

2023-2034A

An analysis of static recrystallization during continuous, rapid heat treatment.

2051-2053A

Grain size, Impurity effects

Microsegregation of oxygen in Zr-2.5Nb alloy materials.

431-440A

Influence of chromium and impurities on the grain refining behavior of aluminum.

791-800A

Grain size, Vibration effects

Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields.

457-464B

Grain size, Welding effects

Microstructural features of friction welded MA 956 superalloy material.

4019-4029A

Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels.

4031-4038A

Grain structure

Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₁₂ phase field.

71-79A

Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces.

213-219A

Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690.

327-341A

A study of typical yields of metals.

731-736A

On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys.

879-890A

The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition.

1273-1281A

On microsuperplasticity in AA7475 domes.

1400-1403A

The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys.

1655-1667A

Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling.

4133-4144A

Grain structure, Alloying effects

The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013.

19-27A

The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels.

951-960A

The breakdown of single-crystal solidification in high refractory nickel-base alloys.

1081-1094A

Elevated temperature compressive properties of N-doped NiAl.

3170-3180A

Grain structure, Coating effects

Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings.

381-390A

Grain structure, Cooling effects

The role of grain corners in nucleation.

480-483A

Prediction of grain structures in various solidification processes.

695-705A

The squeeze casting of hypoeutectic binary Al-Cu.

4121-4132A

Grain structure, Deformation effects

Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination.

49-57A

Precipitation behavior in a medium carbon, Ti-V-N microalloyed steel.

1149-1165A

Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel.

1251-1266A

Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices.

1773-1778A

Grain structure, Field effects

Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields.

445-455B

Grain structure, Heating effects

Effect of superheat on the solidification structures of AlSi 310S austenitic stainless steel.

287-296B

Grain structure, Impurity effects

Microsegregation of oxygen in Zr-2.5Nb alloy materials.

431-440A

Grain structure, Stress effects

Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C.

747-756A

Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy.

829-837A

Effect of multiaxial stresses on creep damage of 316 stainless steel weldments.

891-900A

Grain structure, Temperature effects

Crystallization of amorphous alloys.

549-555A

Some consequences of thermosolutal convection: the grain structure of castings.

569-581A

Graphite, Composite materials

Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation.

277-285B

Graphitic structure, Cooling effects

Transitions between type A flake, type D flake, and coral graphite eutectic structures in cast irons.

2740-2753A

Graphitic structure, Heating effects		
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel.	1585-1594A	
Gravitation		
On the reaction between Fe-Ti and Fe-C liquids under micro-gravity.	407-414A	
Gray Iron, Casting		
Hydrogen effects on directional solidification of tellurium-doped cast irons.	496-498A	
Grinding		
Fracture and crushing strength of micrometer-size diamond abrasives used in microgrinding of optical glass.	1047-1053A	
Grinding mills		
Milling dynamics. II. Dynamics of a SPEX mill and a one-dimensional mill.	1991-1997A	
Milling dynamics. III. Integration of local and global modeling of mechanical alloying devices.	1999-2004A	
Growth rate		
Orientation dependence of primary dendrite spacing.	2727-2739A	
Abnormal growth of faceted (WC) grains in a (Co) liquid matrix.	2809-2819A	
M ₂ C precipitates in isothermal tempering of high Co-Ni secondary hardening steel.	3466-3472A	
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy.	4085-4093A	
Guinier Preston zone		
Low quench sensitivity of superplastic 8090 Al-Li thin sheets.	2923-2933A	
Alloy phase analysis from measurements of bulk magnetic properties.	2958-2965A	
Guinier Preston zone, Alloying effects		
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al ₂ O ₃ metal matrix composites.	2005-2012A	
Hafnium, Binary systems		
Thermochemistry of the Ni-Hf system—intermetallic phases.	3576-3590A	
Hall effect		
Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells.	19-27B	
Hall Heroult process		
Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells.	19-27B	
Effect of baking temperature and anode current density on anode carbon consumption.	177-183B	
Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis.	185-193B	
Hard surfacing		
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys.	3881-3891A	
Hardening, Composition effects		
Mechanical properties of Ru-Ni-Al alloys.	1395-1400A	
Hardness		
Microstructure and properties of Al ₂ O ₃ -Al(Si) and Al ₂ O ₃ -Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics.	2122-2129A	
Investigation of the reaction zone between TiAl and molybdenum.	2285-2292A	
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al.	3126-3134A	
Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voce equation.	3340-3343A	
Hardness, Alloying effects		
Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels.	3343-3348A	
Hardness, Composition effects		
Mechanical properties of Ru-Ni-Al alloys.	1395-1400A	
Hardness, Heating effects		
Low quench sensitivity of superplastic 8090 Al-Li thin sheets.	2923-2933A	
M ₂ C precipitates in isothermal tempering of high Co-Ni secondary hardening steel.	3466-3472A	
Hardness, Microstructural effects		
The cracking mechanism of silicon particles in an A357 aluminum alloy.	3558-3568A	
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing.	3871-3879A	
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys.	3881-3891A	
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatic pressed white iron matrix composites.	4183-4191A	
Heat affected zone		
Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation.	775-783A	
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718.	785-790A	
Effect of multiaxial stresses on creep damage of 316 stainless steel weldments.	891-900A	
Heat affected zone, Mechanical properties		
Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel.	2574-2582A	
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects.	3019-3029A	
Heat affected zone, Microstructure		
Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels.	4031-4038A	
Heat of crystallization		
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al ₃ Ta ₆ alloy powders.	3267-3278A	
Heat of formation		
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry.	417-422B	
Controversy on the free energy of formation of CaO—additional evidence in support of thermochemical data.	647-651B	
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO ₂ system and the standard Gibbs free energies of formation of CaZrO ₃ from CaO and ZrO ₂ .	658-662B	
Gibbs energies of formation of chromium carbides.	1919-1924A	
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates.	2100-2104A	
Heat of reaction		
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates.	2100-2104A	
Heat resistant steels		
M ₂₃ C ₆ carbide equilibria in the Fe-Cr-C system.	701-704B	
Heat transfer		
Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation.	81-99B	
Heat transfer and pressure drop considerations in the design of Siros melt lances.	221-230B	
Solidification of particle-reinforced metal-matrix composites.	663-671B	
Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds.	672-685B	
Generalized enthalpy method for multicomponent phase change.	869-879B	
Heat transfer, Cooling effects		
Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results.	433-443B	
Heat transfer, Temperature effects		
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model.	119-127B	
Heat transmission, Temperature effects		
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model.	119-127B	
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot.	129-137B	
Heterogeneous structure, Cooling effects		
The role of grain corners in nucleation.	480-483A	
Heterogeneous structure, Heating effects		
Microstructural stability on aging of an $\alpha+\beta$ titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si.	1167-1173A	
Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy.	1595-1605A	
Heterogeneous structure, Temperature effects		
Nucleation controlled solidification kinetics.	533-547A	
Morphological instabilities of lamellar eutectics.	635-656A	
High alloy steels, Mechanical properties		
Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels.	2510-2517A	
High alloy steels, Microstructure		
M ₂ C precipitates in isothermal tempering of high Co-Ni secondary hardening steel.	3466-3472A	
High carbon steels, Crystal growth		
Austenite grain growth kinetics in Al-killed plain carbon steels.	3399-3409A	

High carbon steels, Mechanical properties Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties.	111-118A	Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys.	1371-1377A
High cycle fatigue Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue.	1899-1907A	Homogeneous structure, Cooling effects Solidification of binary hypoeutectic alloy matrix composite castings.	595-609A
High speed steel tools, Mechanical properties Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels.	2796-2808A	Homogeneous structure, Field effects Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields.	445-455B
High speed tool steels, Irradiation The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll.	3149-3161A	Homogenizing Evolution of microstructures in the nickel modified titanium tri-aluminides near the L ₁₂ phase field. The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material. Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718.	5-17A 145-153A 785-790A
High strength low alloy steels, Cladding Ballistic impact behavior of multilayered armor plates processed by hardfacing.	3335-3340A	Hot bonding Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation.	3621-3629A
High strength low alloy steels, Corrosion Initiation of stress corrosion cracking for pipeline steels in a carbonate-bicarbonate solution. Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel.	2686-2691A 3601-3611A	Hot dip galvanizing The production of nickel-zinc alloys by powder injection. Modeling iron enrichment in hot-dip galvanized coatings on interstitial-free steels.	780-787B 1132-1134A
High strength low alloy steels, Mechanical properties Copper-bearing high-strength low-alloy steels: the influence of microstructure on the initiation and growth of small fatigue cracks. Hydrogen-induced cleavage fracture of Fe ₃ Al-based intermetallics.	2540-2556A 3949-3956A	Hot extrusion Microsegregation of oxygen in Zr-2.5Nb alloy materials.	431-440A
High strength low alloy steels, Phases (state of matter) Austenite decomposition during continuous cooling of an HSLA-80 plate steel. Copper precipitation during continuous cooling and isothermal aging of A710 type steels.	1554-1568A 1569-1584A	Hot forming Communication: Discussion of "Modeling of dynamic materials behavior. A critical evaluation of the dissipative power co-content approach". Reply: Dynamic materials model. Basis and principles. Micronecking and fracture in cavitated superplastic materials.	232-235A 235-236A 1043-1046A
High strength low alloy steels, Welding Dilution in single pass arc welds. Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel. Forming of tailor-welded blanks. Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects. Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels.	481-489B 2574-2582A 2605-2616A 3019-3029A 4031-4038A	Hot isostatic pressing Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. Synthesis of RuAl by reactive powder processing. Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatic pressed white iron matrix composites. Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatic pressed white iron matrix composites.	1861-1867A 3688-3699A 4171-4181A 4183-4191A
High strength low alloy steels mech p The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels.	2678-2685A	Hot pressing Microstructure and properties of Al ₂ O ₃ -Al(Si) and Al ₂ O ₃ -Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet.	2122-2129A 2221-2228A 3250-3258A
High strength steels, Cladding The wear behavior between hardfacing materials.	3639-3648A	Hot pressing, Pressure effects Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends.	2130-2139A
High strength steels, Mechanical properties Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels.	2510-2517A	Hot rolling Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. Austenite grain growth kinetics in Al-killed plain carbon steels. Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling.	49-57A 3399-3409A 4133-4144A
High strength steels, Microstructure M ₂₃ C ₆ precipitates in isothermal tempering of high Co-Ni secondary hardening steel.	3466-3472A	Hot strip mills Austenite grain growth kinetics in Al-killed plain carbon steels.	3399-3409A
High strength steels, Surface properties Measurement of friction under sheet forming conditions.	3971-3981A	Hot workability, Temperature effects Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy.	1933-1950A
High temperature A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. On the stable Mg-Zn-Y quasicrystals. Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr.	555-566B 704-708B 1779-1784A 1861-1867A 2239-2251A	Hot working Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel.	1251-1266A
High temperature effects High Temperature Fracture Mechanisms in Advanced Materials. 825-1136, 8 1/2 in. x 11 in., Illustrated A		Hydrides Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels.	29-40A
Holes The measurement of hydrogen activities in molten copper using an oxide protonic conductor.	929-935B	Hydrodynamics Characteristics of eccentric bubble plumes in liquids.	231-239B
Homogeneity Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing.	1845-1859A 2094-2099A	Hydrogen, Alloying additive Effect of strain rate and temperature on the flow stress of β -phase titanium-hydrogen alloys. Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. Dynamic strain aging and hydrogen-induced softening in alpha titanium. Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C.	1303-1312A 1869-1876A 1877-1887A 3963-3970A
Homogeneous structure Microstructure of Al ₂ O ₃ fiber-reinforced superalloy (Inconel 718) composites.	451-458A		

Hydrogen, Binary systems		
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions.	808-826B	
Hydrogen, Chemical analysis		
Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis.	3682-3687A	
Hydrogen, Diffusion		
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels.	1815-1821A	
Hydrogen trapping and permeation in nickel thoria.	2495-2503A	
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels.	3773-3780A	
Hydrogen-induced cleavage fracture of Fe ₃ Al-based intermetallics.	3949-3956A	
Hydrogen, Dopants		
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels.	29-40A	
Hydrogen, Environment		
Hydrogen effects on directional solidification of tellurium-doped cast irons.	496-498A	
Hydrogen, Impurities		
The effect of hydrogen on the fracture of alloy X-750.	101-110A	
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity.	371-379A	
Hydrogen, Reactions (chemical)		
The measurement of hydrogen activities in molten copper using an oxide protonic conductor.	929-935B	
Hydrogen embrittlement		
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels.	2678-2685A	
Initiation of stress corrosion cracking for pipeline steels in a carbonate-bicarbonate solution.	2686-2691A	
Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis.	3682-3687A	
Shear ligament phenomena in Fe ₃ Al intermetallics and micro-mechanics of shear ligament toughening.	3817-3825A	
Hydrogen-induced cleavage fracture of Fe ₃ Al-based intermetallics.	3949-3956A	
Hydrogen embrittlement, Composition effects		
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels.	3773-3780A	
Hydrogen embrittlement, Deformation effects		
Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe ₃ Al.	2985-2993A	
Hydrogen embrittlement, Environmental effects		
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach.	1313-1325A	
Hydrogen embrittlement, Heating effects		
A strain-based fracture model for stress corrosion cracking of low-alloy steels.	291-304A	
Hydrogen embrittlement, Impurity effects		
The effect of hydrogen on the fracture of alloy X-750.	101-110A	
Hydrogen reduction		
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study.	577-584B	
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion.	585-594B	
Discussion of "Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams" and reply.	693-694B	
Preoxidation and hydrogen reduction of ilmenite in a fluidized bed reactor.	731-738B	
Hydrogen storage		
Hydrogen trapping and permeation in nickel thoria.	2495-2503A	
Hydrogen sulfide, Environment		
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel.	3601-3611A	
Hydrogenation		
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels.	29-40A	
Hydrometallurgy		
Zinc reduction of MoO ₃ in a self propagating high temperature synthesis process.	315-318B	
A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures.	555-566B	
The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc.	567-576B	
Hypereutectic structures		
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys.	3881-3891A	
Hysteresis		
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels.	1815-1821A	
Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue.	1899-1907A	
High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-48Al-2Nb-2Cr.	2239-2251A	
Ilmenite, Reduction (chemical)		
Preoxidation and hydrogen reduction of ilmenite in a fluidized bed reactor.	731-738B	
Impact strength		
Failure characteristics of 6061/Al ₂ O ₃ /15 _p and 2014/Al ₂ O ₃ /15 _p composites as a function of loading rate.	3095-3107A	
Ballistic impact behavior of multilayered armor plates processed by hardfacing.	3335-3340A	
Impact strength, Alloying effects		
Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels.	3343-3346A	
Impact strength, Heating effects		
Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels.	2510-2517A	
Impact strength, Microstructural effects		
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel.	1585-1594A	
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatic pressed white iron matrix composites.	4183-4191A	
Impact strength, Stress effects		
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel.	757-761A	
Impact tests		
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects.	3019-3029A	
Failure characteristics of 6061/Al ₂ O ₃ /15 _p and 2014/Al ₂ O ₃ /15 _p composites as a function of loading rate.	3095-3107A	
Impurities, Chemical analysis		
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity.	371-379A	
Inclusions		
Activities in MnO-SiO ₂ -Al ₂ O ₃ slags and deoxidation equilibria of manganese and silicon.	263-270B	
The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method.	1951-1962A	
Theoretical calculation of the stress-strain behavior of dual-phase metals with randomly oriented spheroidal inclusions.	2359-2365A	
Indentation		
Plastic zone and pileup around large indentations.	3793-3800A	
Indium base alloys, Mechanical properties		
Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy.	1687-1692A	
Industrial wastes		
Materials and society—impacts and responsibilities.	337-350B	
The use of blast furnace slag and derived materials in the vitrification of electric arc furnace dust.	379-384B	
Industrial wastes, Reactions (chemical)		
Preparation of glass-forming materials from granulated blast furnace slag.	801-807B	
Industrial wastes, Recovering		
A kinetic study of the reaction of zinc oxide with iron powder.	363-374B	
Infiltration		
Microstructure and properties of Al ₂ O ₃ -Al(Si) and Al ₂ O ₃ -Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics.	2122-2129A	
Permeability of microporous carbon preforms.	3669-3674A	
Infiltration of fibrous preform by molten aluminum in a centrifugal force field.	4163-4169A	
Infrared brazing		
Infrared transient-liquid-phase joining of SCS-6/B21S titanium matrix composite.	4011-4018A	
Infrared heating		
Liquid state infrared processing of SCS-6/Ti-6Al-4V composites.	527-532B	
Infrared radiation		
Liquid state infrared processing of SCS-6/Ti-6Al-4V composites.	527-532B	

- Ingots**
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
- Ingots, Dimensional analysis**
Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- Ingots, Microstructure**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013. 19-27A
Scaling of intragranular dendritic microstructure in ingot solidification. 101-113B
Effect of superheat on the solidification structures of AISI 310S austenitic stainless steel. 287-296B
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields. 445-455B
- Ingots, Phases (state of matter)**
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
- Injection**
Experimental study of splash generation in a flash smelting furnace. 633-646B
A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. 704-708B
The separation of the solids from the carrier gas during submerged powder injection. 773-779B
The production of nickel-zinc alloys by powder injection. 780-787B
- Injection molding**
Comparative study of pore structure evolution during solvent and thermal debinding of powder injection molded parts. 245-253A
A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-408B
- Interface reactions**
Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. 1379-1394A
Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A
Structure of phases in the δ -Al₂O₃ fiber studied by convergent beam electron diffraction. 3318-3329A
- Interface reactions, High temperature effects**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
- Interface reactions, Pressure effects**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Interfaces**
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
- Interferometry**
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Intergranular corrosion, Heating effects**
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Intergranular corrosion, Microstructural effects**
Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
- Intergranular fracture, Diffusion effects**
Nonequilibrium grain-boundary segregation and ductile-brittle transition in Fe-Mn-Ni-Ti age-hardening alloy. 3059-3065A
- Intergranular fracture, Heating effects**
A strain-based fracture model for stress corrosion cracking of low-alloy steels. 291-304A
- Intergranular fracture, Microstructural effects**
Intergranular fracture in some precipitation-hardened aluminum alloys at low temperatures. 3081-3088A
- Intergranular structure, High temperature effects**
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Interlayers**
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Intermetallic phases**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₁₂ phase field. 71-79A
Discussion of "The effect of steel chemistry on the formation of Fe-Zn intermetallic compounds of galvanneal-coated steel sheets" and authors' reply. 146-148B
- Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
Interface attachment kinetics in alloy solidification. 671-686A
Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. 1379-1394A
Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
A high resolution transmission electron microscopy study of interfaces between the γ , B2, and α_2 phases in a Ti-Al-Mo alloy. 1618-1629A
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
Structural stability of super duplex stainless steel weld metals and its dependence on tungsten and copper. 2196-2208A
Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A
Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A
Retardation of intermetallic phase formation in experimental superferritic stainless steels. 2436-2444A
Thermodynamic activities and phase boundaries for the alloys of the Ni₃Al-Ni₃Ti pseudobinary section in the Ni-Al-Ti system. 2673-2677A
Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures. 2888-2896A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Intermetallic phases, Alloying effects**
Mechanical alloying of Nb-Al powders. 41-48A
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
- Intermetallic phases, Cooling effects**
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
Rapid solidification processing of a Mg-Li-Si-Ag alloy. 1363-1370A
- Intermetallic phases, Deformation effects**
The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
Preferential coarsening of γ' precipitates in Inconel 718 during creep. 3391-3398A
- Intermetallic phases, Heating effects**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L₁₂ phase field. 5-17A
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 785-790A
Phase transformations in Nb-Al-Ti alloys. 1642-1654A
Microstructural aspects of the dissolution and melting of Al₂Cu phase in Al-Si alloys during solution heat treatment. 1785-1798A
- Intermetallic phases, High temperature effects**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Intermetallic phases, Radiation effects**
Improved oxidation resistance of group VB refractory metals by Al³⁺ ion implantation. 491-500B
- Intermetallic phases, Stress effects**
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
- Intermetallic phases, Temperature effects**
Nucleation controlled solidification kinetics. 533-547A
- Intermetallics**
Thermodynamic activities and phase boundaries for the alloys of the Ni₃Al-Ni₃Ti pseudobinary section in the Ni-Al-Ti system. 2673-2677A
- Intermetallics, Alloying elements**
Notch fracture in γ -titanium aluminides. 3903-3912A
- Intermetallics, Bonding**
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Intermetallics, Coating**
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A

Intermetallics, Coatings	
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I.	353-361A
Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking.	363-369A
Intermetallics, Composite materials	
Effective elastic moduli of fiber-matrix interphases in high-temperature composites.	165-182A
Bridge toughening enhancement in double-notched MoSi ₂ /Nb model composites.	909-921A
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates.	2100-2104A
Investigation of the reaction zone between TiAl and molybdenum.	2285-2292A
NTI and NTI-TiC composites. IV. Neutron diffraction study of twinning and shape-memory recovery.	2820-2836A
Ni ₃ Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy.	3259-3266A
Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements.	3781-3792A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite.	3801-3808A
Intermetallics, Crystal growth	
Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films.	2047-2050A
Intermetallics, Joining	
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation.	3621-3629A
Intermetallics, Mechanical properties	
Non-Schmid effects on the behavior of polycrystals, with applications to Ni ₃ Al.	81-99A
Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti ₃ Al lamellar alloy.	127-134A
Rafting in superalloys.	513-530A
High-temperature deformation properties of NiAl single crystals.	1229-1240A
Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy.	1933-1950A
High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr.	2239-2251A
High-temperature deformation processing of Ti-24Al-20Nb.	2593-2604A
Elevated temperature compressive properties of zirconium-modified NiAl.	2628-2641A
High-temperature behavior of precious metal base composites.	2642-2652A
Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe ₃ Al.	2985-2993A
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites.	3007-3018A
Elevated temperature compressive properties of N-doped NiAl.	3170-3180A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material.	3675-3681A
Shear ligament phenomena in Fe ₃ Al intermetallics and micro-mechanics of shear ligament toughening.	3817-3825A
Hydrogen-induced cleavage fracture of Fe ₃ Al-based intermetallics.	3949-3956A
Intermetallics, Oxidation	
Phase relations of a silicide/silica reaction couple at 2273K.	271-276B
High-temperature oxidation of Ti ₃ Al-based titanium aluminides in oxygen.	3993-4002A
Effect of nitrogen on the oxidation behavior of Ti ₃ Al-based intermetallic alloys.	4003-4010A
Intermetallics, Phase transformations	
Molecular dynamics simulation of martensitic transformations in NiAl.	1476-1488A
Effect of alloying elements on martensitic transformation in the binary NiAl(B) phase alloys.	2445-2453A
The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films.	2858-2860A
Intermetallics, Phases (state of matter)	
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti).	2045-2046A
Intermetallics, Powder technology	
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems.	1761-1771A
Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends.	2130-2139A
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control.	2140-2150A
Kinetics of phase evolution of Zn-Fe intermetallics.	2904-2910A
Synthesis of RuAl by reactive powder processing.	3688-3699A
Intermetallics, Reactions (chemical)	
Modeling of sequential reactions during micropyretic synthesis.	961-972A
Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy.	967-972B
Intermetallics, Structural hardening	
Manifestations of dynamic strain aging in soft-oriented NiAl single crystals.	3542-3557A
Intermetallics, Synthesis	
Synthesis of nanocrystalline Ni ₃ Cu by sol-gel route.	4213-4216A
Intermetallics, Thermal properties	
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni ₃ Al.	3569-3575A
Internal friction	
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels.	1815-1821A
Interstitial impurities	
The role of coincident site lattice boundaries during selective growth in interstitial-free steels.	2178-2186A
Influence of interstitials on the mechanical properties of metallic materials.	3524-3529A
Interstitial solutions	
Annealing and aging of interstitial C in α -Fe, as measured by internal friction.	2461-2469A
Intragranular structure, Cooling effects	
Scaling of intragranular dendritic microstructure in ingot solidification.	101-113B
Investment casting	
Prediction of grain structures in various solidification processes.	695-705A
Viscosity of superalloy 718 by the oscillating vessel technique.	698-701B
Ion implantation	
Improved oxidation resistance of group VB refractory metals by Al ³⁺ ion implantation.	491-500B
Effects of nitrogen implantation on low cycle fatigue behavior of ferritic Fe-24Cr-4Al stainless alloy.	2663-2672A
The growth and structure of thin oxide films on cerium ion-implanted nickel.	3649-3661A
Ion nitriding	
Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer.	1347-1352A
Effects of nitrogen implantation on low cycle fatigue behavior of ferritic Fe-24Cr-4Al stainless alloy.	2663-2672A
Iridium, Binary systems	
Standard enthalpies of formation of dysprosium alloys, Dy-Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry.	417-422B
Iron, Alloying elements	
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013.	19-27A
Iron, Binary systems	
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions.	808-826B
Generalized enthalpy method for multicomponent phase change.	869-879B
Control of iron nitride layers growth kinetics in the binary Fe-N system.	1823-1835A
Iron, Chemical analysis	
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy.	604-609B
Iron, Diffusion	
Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique.	725-730A
Iron, Extraction	
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides.	827-838B
Iron, Impurities	
Influence of chromium and impurities on the grain refining behavior of aluminum.	791-800A
Iron, Irradiation	
Theoretical treatment of nitriding and nitrocarburizing of iron. A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys.	1073-1080A
Iron, Phase transformations	
Bainite in the light of rapid continuous cooling information.	3381-3390A
Iron, Quaternary systems	
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system.	1499-1510A
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system.	2869-2880A
Iron, Solubility	
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron.	3357-3361A
	846-851B

Iron, Ternary systems

- Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
 $M_{23}C_6$ carbide equilibria in the Fe-Cr-C system. 701-704B
 Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
 Experimental study of the phase equilibria in the Fe-Mn-Al system. 2429-2435A
 Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
 Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A
 Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni_3Al . 3589-3575A

Iron and steel making

- Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B

Iron compounds, Mechanical properties

- Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe_3Al . 2985-2993A
 Shear ligament phenomena in Fe_3Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A
 Hydrogen-induced cleavage fracture of Fe_3Al -based intermetallics. 3949-3956A

Iron compounds, Powder technology

- Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A

Iron oxides, Metallography

- Real-time observations of the oxidation of mild steel at high temperature by neutron diffraction. 993-997B

Iron oxides, Ternary systems

- Chemical potentials of components of the system $CaO-P_2O_5-Fe_2O_3$ at 1673K. 595-603B

Ironmaking

- A multiphase fluid mechanics approach to gas holdup in bath smelting processes. 195-201B
 A study of the thermal decomposition of $BaCO_3$. 409-416B
 Alternative technologies in iron and steelmaking. 541-553B
 Reduction of FeO in smelting slags by solid carbon: experimental results. 717-730B
 Preparation of glass-forming materials from granulated blast furnace slag. 801-807B

Isothermal annealing

- Modeling recovery and recrystallization kinetics in cold-rolled Ti-Nb stabilized interstitial-free steel. 3410-3423A

Isothermal treatment

- The control of grain size and distribution of particles in a $(6061 \text{ alloy})_m/(Al_2O_3)_p$ composite by solutionizing treatment. 2023-2034A
 An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A
 M_2C precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3466-3472A

Joints, Microstructure

- Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A

Killed steels, Steel making

- Activities in MnO-SiO₂-Al₂O₃ slags and deoxidation equilibria of manganese and silicon. 263-270B

Kinetics

- Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
 An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A
 Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
 Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A

Ladle metallurgy

- Characteristics of eccentric bubble plumes in liquids. 231-239B
 A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. 704-708B
 Activities in $CaO-SiO_2-Al_2O_3$ slags and deoxidation equilibria of silicon and aluminum. 943-953B

Lamellar structure

- Microstructure and phase relations in a powder-processed Ti-22Al-12Nb alloy. 1121-1126A
 A high resolution transmission electron microscopy study of interfaces between the γ , B2, and α_2 phases in a Ti-Al-Mo alloy. 1618-1629A
 High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr. 2239-2251A
 Directional solidification of white cast iron. 2328-2337A

Lamellar structure, Deformation effects

- Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A

Lamellar structure, Heating effects

- The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet. 3250-3258A
 Discussion of "Effects of tensile stress on microstructural change of eutectoid Zn-Al alloy" and authors' reply. 3330-3335A

Lamellar structure, Temperature effects

- Morphological instabilities of lamellar eutectics. 635-656A
 Eutectoid decomposition in Ag-Ga. 1676-1682A

Laminates, Mechanical properties

- Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
 Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
 Bridge toughening enhancement in double-notched $MoSi_2/Nb$ model composites. 909-921A

Laminates, Reactions (chemical)

- Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A

Laminates, Rolling

- Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A

Lances

- Heat transfer and pressure drop considerations in the design of Sirosmit lances. 221-230B

Lanthanum, Binary systems

- Inverse melting in binary systems: morphology and microscopy of catatectic alloys. 979-988B

Laser beam heating

- Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment. 2293-2296A

Laser beam melting

- Prediction of grain structures in various solidification processes. 695-705A
 Anomalous diffusion of iron in liquid aluminum measured by the pulsed laser technique. 725-730A
 Investigation of the temperature field developed by a spinning beam in laser processing. 4039-4047A

Laser beam welding

- Prediction of grain structures in various solidification processes. 695-705A
 Forming of tailor-welded blanks. 2605-2616A

Laser processing

- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A

Latent heat

- Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A

Lattice parameters

- Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A
 Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A
 Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures. 2888-2896A

Lattice parameters, Alloying effects

- Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A

Lattice parameters, Composition effects

- An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ - Fe_4N_{1-x} and ϵ - Fe_2N_{1-x} . 1063-1071A

Lattice parameters, Deformation effects

- The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A

Lattice parameters, Heating effects

- Microstructural stability on aging of an $\alpha+\beta$ titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A

Lattice parameters, High temperature effects

- High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A

Lattice parameters, Stress effects

- Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A

Lattice parameters, Temperature effects

- Rafting in superalloys. 513-530A

Lattice vacancies

- The characteristics of cavitation in superplastic metals and ceramics. 873-878A
 Creep deformation of dispersion-strengthened copper. 1217-1227A

- Lattice vacancies, Deformation effects**
Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1686A
- Lattice vacancies, Radiation effects**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Laves phase**
Microstructure of Al_2O_3 fiber-reinforced superalloy (Inconel 718) composites. 451-458A
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
- Laves phase, Heating effects**
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 785-790A
- Leaching**
The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. 567-576B
- Lead base alloys, Casting**
Macroseggregation during dendritic arrayed growth of hypoeutectic Pb-Sn alloys: influence of primary arm spacing and mushy zone length. 1353-1362A
- Lead base alloys, Crystal growth**
Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 1095-1110A
Ostwald ripening of solid-liquid Pb-Sn dispersions. 2470-2478A
- Lead base alloys, Phase transformations**
Banded solidification microstructures. 625-634A
Precipitation in lead-cadmium alloys containing tin. 1668-1675A
- Lime, Physical properties**
Controversy on the free energy of formation of CaO—additional evidence in support of thermochemical data. 647-651B
- Lime, Reactions (chemical)**
Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO₂ system and the standard Gibbs free energies of formation of CaZrO₃ from CaO and ZrO₂. 658-662B
Activities in CaO-SiO₂-Al₂O₃ slags and deoxidation equilibria of silicon and aluminum. 943-953B
Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B
- Lime, Ternary systems**
Chemical potentials of components of the system CaO-P₂O₅-Fe₂O₃ at 1873K. 595-603B
- Liquid metals, Physical properties**
Prediction of liquid metal viscosities using an adjustable hard sphere radial distribution curve. 29-34B
- Liquid metals, Sorption**
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B
- Liquid metals, Surface properties**
Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B
- Liquid phase sintering**
Solid-state contributions to densification during liquid-phase sintering. 901-909B
Abnormal growth of faceted (WC) grains in a (Co) liquid matrix. 2809-2819A
- Liquid phase sintering, Alloying effects**
The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Liquid phases**
Dynamic behavior of a liquid/liquid interface at an oscillating wall. 305-314B
Effects of flow on morphological stability during directional solidification. 583-593A
Interface attachment kinetics in alloy solidification. 671-686A
An adaptive mesh refinement scheme for solidification problems. 707-717A
Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
The Rayleigh instability and the origin of rows of droplets in the monotectic microstructure of zinc-bismuth alloys. 2053-2057A
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Liquid phases, Cooling effects**
Vacuum evaporation of KCl-NaCl salts.II. Vaporization-rate model and experimental results. 433-443B
- Liquid phases, Field effects**
On the reaction between Fe-Ti and Fe-C liquids under microgravity. 407-414A
- Liquid phases, Pressure effects**
Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions. 141-146B
- Liquid phases, Temperature effects**
A study of the thermal decomposition of BaCO₃. 409-416B
Overview of geometric effects on coarsening of mushy zones. 557-567A
The phase field method: simulation of alloy dendritic solidification during recalcification. 657-669A
- Liquidus**
Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. 739-744B
- Lithium, Alloying elements**
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Lithium, Binary systems**
Thermodynamic studies and the phase diagram of the Li-Mg system. 2419-2428A
- Loads (forces)**
Time-dependent, environmentally assisted crack growth in Nicalon-fiber-reinforced SiC composites at elevated temperatures. 839-849A
Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 4095-4111A
- Long range order**
Interface attachment kinetics in alloy solidification. 671-686A
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A
- Long range order, Alloying effects**
Thermodynamics and long-range order of nitrogen in γ -Fe₄N_{1-x}. 1055-1061A
- Long range order, Composition effects**
An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ -Fe₄N_{1-x} and ϵ -Fe₂N₁₋₂. 1063-1071A
- Low alloy steels, Casting**
Prediction of dendrite arm spacing for low alloy steel casting processes. 689-693B
- Low alloy steels, Coating**
Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Low alloy steels, Corrosion**
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A
- Low alloy steels, Heat treatment**
Modeling recovery and recrystallization kinetics in cold-rolled Ti-Nb stabilized interstitial-free steel. 3410-3423A
- Low alloy steels, Mechanical properties**
A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Low alloy steels, Phase transformations**
The driving force for martensitic transformations in low alloy steels. 1127-1132A
- Low carbon steels, Casting**
Prediction of dendrite arm spacing for low alloy steel casting processes. 689-693B
Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 999-1014B
- Low carbon steels, Coating**
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Low carbon steels, Composite materials**
Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A
- Low carbon steels, Crystal growth**
An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A
Austenite grain growth kinetics in Al-killed plain carbon steels. 3399-3409A
- Low carbon steels, Heat treatment**
Surface morphology and compound layer pores of plasma nitrocarburized low carbon steel. 135-143A
Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A
- Low carbon steels, Mechanical properties**
Plastic anisotropy of sheets with continuously varying anisotropic parameters and flow stress. 317-326A
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels. 2678-2685A

- Low carbon steels, Metal working**
The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-980A
- Low carbon steels, Microstructure**
Modeling texture change during the static recrystallization of interstitial free steels. 155-164A
The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
- Low carbon steels, Oxidation**
Real-time observations of the oxidation of mild steel at high temperature by neutron diffraction. 993-997B
- Low cycle fatigue**
High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-48Al-2Nb-2Cr. 2239-2251A
- Low cycle fatigue, Coating effects**
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I. 353-361A
- Low cycle fatigue, Composition effects**
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
- Low cycle fatigue, Microstructural effects**
The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition. 1273-1281A
- Low cycle fatigue, Radiation effects**
Effects of nitrogen implantation on low cycle fatigue behavior of ferritic Fe-24Cr-4Al stainless alloy. 2663-2672A
- Low cycle fatigue, Stress effects**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
- Magnesium, Alloying additive**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al₂O₃ metal matrix composites. 2005-2012A
- Magnesium, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Thermodynamic studies and the phase diagram of the Li-Mg system. 2419-2428A
- Magnesium, Chemical analysis**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
- Magnesium, Forming**
Reply: Dynamic materials model. Basis and principles. 235-236A
- Magnesium base alloys, Forming**
Reply: Dynamic materials model. Basis and principles. 235-236A
- Magnesium base alloys, Mechanical properties**
Rapid solidification processing of a Mg-Li-Si-Ag alloy. 1363-1370A
- Magnesium base alloys, Microstructure**
On the stable Mg-Zn-Y quasicrystals. 1779-1784A
- Magnetic fields**
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields. 445-455B
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields. 457-464B
Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 1095-1110A
- Magnetic measurements**
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
- Magnetic permeability**
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
- Magnetic permeability, Heating effects**
Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A
- Magnetic testing**
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
- Magnetization**
Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Magnetoelastic effect**
Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Magnetostriction**
Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Manganese, Alloying additive**
Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. 2947-2957A
- Manganese, Alloying elements**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013. 19-27A
- Manganese, Binary systems**
Inverse melting in binary systems: morphology and microscopy of catactetic alloys. 979-986B
- Manganese, Composite materials**
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
- Manganese, Phases (state of matter)**
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A
- Manganese, Quaternary systems**
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Manganese, Ternary systems**
Experimental study of the phase equilibria in the Fe-Mn-Al system. 2429-2435A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Manganese base alloys, Phases (state of matter)**
Nucleation controlled solidification kinetics. 533-547A
- Manganese base alloys, Refining**
Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
- Maraging steels, Mechanical properties**
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
- Martensite**
The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1858A
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₁₆N₂ nitride by interstitial ordering in martensite. 2160-2177A
- Martensite, Alloying effects**
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- Martensite, Composition effects**
Structural characterization of martensitic iron-carbon alloy films electrodeposited from an iron(II) sulfate solution. 483-486A
- Martensite, Cooling effects**
Bainite in the light of rapid continuous cooling information. Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1499-1510A
1554-1568A
- Martensite, Deformation effects**
Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
- Martensite, Heating effects**
Microstructural stability on aging of an α - β titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
- Martensite, High temperature effects**
Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A
- Martensite, Temperature effects**
The driving force for martensitic transformations in low alloy steels. 1127-1132A
- Martensitic stainless steels, Mechanical properties**
Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-469A
- Martensitic stainless steels, Phase transformations**
Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation. 1799-1805A
- Martensitic transformations**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
A comprehensive dynamical study of nucleation and growth in a one-dimensional shear martensitic transition. 1203-1216A
Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy. 1687-1692A

Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation.	1799-1805A	Heat transfer and pressure drop considerations in the design of Siros melt lances.	221-230B
Thermoelectric martensite and shape memory effect in ductile Cu-Al-Mn alloys.	2187-2195A	Communication: Mechanical deformation of dendrites by fluid flow.	229-232A
NiTi and NiTi-TiC composites. IV. Neutron diffraction study of twinning and shape-memory recovery.	2820-2836A	Communication: Discussion of "Modeling of dynamic materials behavior. A critical evaluation of the dissipator power content approach".	232-235A
The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films.	2858-2860A	Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts.	241-253B
Influence of training time and temperature on shape memory effect in Cu-Zn-Al alloys.	3108-3111A	A strain-based fracture model for stress corrosion cracking of low-alloy steels.	291-304A
High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. I. Plate interfaces and growth ledges.	3362-3370A	An extended two-dimensional mathematical model of vertical ring furnaces.	297-304B
High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. II. Plate intersections, extended defects, and nucleation mechanisms.	3371-3380A	Dynamic behavior of a liquid/liquid interface at an oscillating wall.	305-314B
Martensitic transformations in NiMnAl β phase alloys.	4153-4162A	Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique.	318-322B
Martensitic transformations, Alloying effects		Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply.	322-325B
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys.	973-980A	Discussion of "derivation and consistency of the partial functions of the ternary system involving interaction coefficients" and author's reply.	325-327B
Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys.	2445-2453A	Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results.	433-443B
Martensitic transformations, Cooling effects		Theoretical modeling of densification during activated solid-state sintering.	441-450A
NiTi and NiTi-TiC composites. III. Shape-memory recovery. Bainite in the light of rapid continuous cooling information.	193-203A	The effect of bulk flow concentration on diffusion coupling between dendrites.	477-480A
Martensitic transformations, Heating effects	1499-1510A	Dilution in single pass arc welds.	481-489B
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films.	3753-3759A	A process model for on-line quenching of aluminum extrusions. The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC.	501-508B
Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites.	4171-4181A	Transient thermal model of the continuous single-wheel thin-strip casting process.	503-505A
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites.	4183-4191A	Rafting in superalloys.	509-525B
Martensitic transformations, Stress effects		Some consequences of thermosolutal convection: the grain structure of castings.	513-530A
Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals.	269-279A	Numerical modeling of cellular/dendritic array growth: spacing and structure predictions.	569-581A
Computer simulation of reversible martensitic transformations. Molecular dynamics simulation of martensitic transformations in NiAl.	1187-1201A	Intermixing model of continuous casting during a grade transition.	611-623A
Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy.	1476-1488A	Banded solidification microstructures.	617-632B
Martensitic transformations, Temperature effects	3066-3073A	The phase field method: simulation of alloy dendritic solidification during recalescence.	625-634A
The driving force for martensitic transformations in low alloy steels.	1127-1132A	Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy.	657-669A
Mass transfer		Prediction of dendrite arm spacing for low alloy steel casting processes.	687-694A
Control of iron nitride layers growth kinetics in the binary Fe-N system.	1823-1835A	An adaptive mesh refinement scheme for solidification problems.	689-693B
Mathematical analysis		A study of typical yields of metals.	707-717A
Van der Waals approximation for potassium bubbles in tungsten.	987-992B	Mathematical modeling of tundish operation and flow control to reduce transition slabs.	731-736A
Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voce equation.	3340-3343A	A water model study of the flow asymmetry inside a continuous slab casting mold.	745-756B
Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow.	3346-3348A	Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure.	757-764B
An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V.	3957-3962A	The production of nickel-zinc alloys by powder injection. Modeling and experimental study of gaseous oxidation of liquid iron alloys.	765-772B
Mathematical models		Generalized enthalpy method for multicomponent phase change.	780-787B
Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells.	19-27B	Solid-state contributions to densification during liquid-phase sintering.	852-862B
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels.	29-40A	Bridge toughening enhancement in double-notched MoSi ₂ /Nb model composites.	869-879B
Prediction of liquid metal viscosities using an adjustable hard sphere radial distribution curve.	29-34B	Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet.	901-909B
Solubility of carbon in CaO-Al ₂ O ₃ melts.	57-64B	Ostwald ripening in ternary alloys.	909-921A
Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams.	65-69B	A thermodynamic evaluation of the Ti-Mo-C system.	911-920B
Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation.	81-99B	Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel.	937-943A
Scaling of intragranular dendritic microstructure in ingot solidification.	101-113B	A one-phase model of the mixing of Al-SiC composite melt.	955-966B
Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions.	141-146B	Theoretical analysis of the particle gradient distribution in centrifugal field during solidification.	999-1014B
Modeling texture change during the static recrystallization of interstitial free steels.	155-164A	Thermodynamics and long-range order of nitrogen in γ -Fe ₄ N ₁ .	1015-1023B
Effective elastic moduli of fiber-matrix interphases in high-temperature composites.	165-182A	Theoretical treatment of nitriding and nitrocarburizing of iron.	1025-1029B
A multiphase fluid mechanics approach to gas holdup in bath smelting processes.	195-201B	Modeling iron enrichment in hot-dip galvanneal coatings on interstitial-free steels.	1055-1061A
Dispersed phase holdup in liquid-liquid emulsions generated by high strength bottom gas injection.	213-219B	Computer simulation of reversible martensitic transformations. A comprehensive dynamical study of nucleation and growth in a one-dimensional shear martensitic transition.	1073-1080A
		The normalized Coffin-Manson plot in terms of a new damage function based on grain boundary cavitation under creep-fatigue condition.	1132-1134A
		Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation.	1187-1201A
		Effect of uniaxial stress on coarsening of precipitate clusters.	1203-1216A
		Characterization of a massive transformation by microstructural analysis.	1273-1281A
			1441-1448A
			1460-1475A
			1511-1516A

- Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
- Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1686A
- Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
- Modeling of microsegregation in macrosegregation computations. 2314-2327A
- Theoretical calculation of the stress-strain behavior of dual-phase metals with randomly oriented spheroidal inclusions. 2359-2365A
- Average effective interdiffusion coefficients and the Matano plane composition. 2504-2509A
- A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
- Determination of the solidification curves of commercial aluminum alloys. 2722-2726A
- Equiaxed dendritic solidification with convection. I. Multiscale/multiphase modeling. 2754-2764A
- Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy. 2765-2783A
- Equiaxed dendritic solidification with convection. III. Comparisons with $\text{NH}_4\text{Cl-H}_2\text{O}$ experiments. 2784-2795A
- A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
- Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
- Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Simulation of the hot-tension test under cavitating conditions. 3112-3119A
- Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 3381-3390A
- Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A
- The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- A model for coupled growth of reaction layers in reactive brazing of ZrO_2 -toughened Al_2O_3 . 3630-3638A
- Plastic zone and pileup around large indentations. 3793-3800A
- Shear ligament phenomena in Fe_3Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A
- Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
- Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Measurement of friction under sheet forming conditions. 3971-3981A
- High-temperature oxidation of Ti_3Al -based titanium aluminides in oxygen. 3993-4002A
- Infrared transient-liquid-phase joining of SCS-6/B21S titanium matrix composite. 4011-4018A
- Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. I. Model development and discussion. 4061-4074A
- Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
- Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
- Mathematical modeling of the extrusion of 6061/ Al_2O_3 /20p composite. 4095-4111A
- Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
- Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Lamellar growth of eutectic equiaxed grains. 4205-4210A
- Mechanical alloying**
- Mechanical alloying of Nb-Al powders. 41-48A
- Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
- Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
- Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
- Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- Milling dynamics. II. Dynamics of a SPEX mill and a one-dimensional mill. 1991-1997A
- Milling dynamics. III. Integration of local and global modeling of mechanical alloying devices. 1999-2004A
- Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A
- Thermally assisted and mechanically driven solid-state reactions for formation of amorphous $\text{Al}_{53}\text{Ta}_{47}$ alloy powders. 3267-3278A
- Microstructural changes in a mechanically alloyed Al-6.2Zn-2.5Mg-1.7Cu alloy (7010) with and without particulate SiC reinforcement. 3718-3726A
- Medium carbon steels, Casting**
- Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B
- Medium carbon steels, Heat treatment**
- Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment. 2293-2296A
- Medium carbon steels, Phase transformations**
- Precipitation behavior in a medium carbon, Ti-V-N microalloyed steel. 1149-1165A
- Melting**
- The effect of bulk flow concentration on diffusion coupling between dendrites. 477-480A
- Analysis and Modeling of Solidification. 509-524A
- Microstructural aspects of the dissolution and melting of Al_2Cu phase in Al-Si alloys during solution heat treatment. 1785-1796A
- Modeling of microsegregation in macrosegregation computations. 2314-2327A
- Melting points**
- Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results. 433-443B
- Melts**
- The separation of the solids from the carrier gas during submerged powder injection. 773-779B
- Melts, Chemical analysis**
- Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Melts, Oxidation**
- Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Metal powders, Synthesis**
- Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B
- Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
- Metallic glasses, Atomic properties**
- Effects of low-temperature aging on the microstructure and soft magnetic properties of rapidly quenched Fe-Si-B alloys. 2454-2460A
- Metallic glasses, Crystal growth**
- Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A
- The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 3424-3430A
- Metallic glasses, Magnetic properties**
- Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Metallic glasses, Powder technology**
- Thermally assisted and mechanically driven solid-state reactions for formation of amorphous $\text{Al}_{53}\text{Ta}_{47}$ alloy powders. 3267-3278A
- Metallizing**
- Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B
- Metastable phases**
- Interface attachment kinetics in alloy solidification. 671-686A
- Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2048A
- Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A
- Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- High-resolution electron microscopy analysis of structural defects in a (2/1, 5/3)-type approximant of a decagonal quasicrystal of an Al-Pd-Mn alloy. 2911-2915A
- Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A
- An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Microstructure of Cu-Co alloys solidified at various supercoolings. 4049-4059A
- Metastable phases, Alloying effects**
- Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A

- Metastable phases, Composition effects**
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels. 29-40A
- Metastable phases, Temperature effects**
Nucleation controlled solidification kinetics. 533-547A
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Microalloying**
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Microhardness**
The control of grain size and distribution of particles in a (6061 alloy)_m/(Al₂O₃)_p composite by solutionizing treatment. 2023-2034A
- Microhardness, Coating effects**
Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Microhardness, Cooling effects**
Rapid solidification processing of a Mg-Li-Si-Ag alloy. 1363-1370A
- Microhardness, Heating effects**
Mechanical properties and 85°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si. 1700-1708A
- Microhardness, Microstructural effects**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₂ phase field. 71-79A
Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Microhardness, Welding effects**
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects. 3019-3029A
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Microporosity**
Permeability of microporous carbon preforms. 3669-3674A
- Microscopy**
Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A
- Microstructure**
The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material. 145-153A
Comparative study of pore structure evolution during solvent and thermal debinding of powder injection molded parts. 245-253A
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
Microstructure and properties of Al₂O₃-Al(Si) and Al₂O₃-Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A
- Microstructure, Heating effects**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L₁₂ phase field. 5-17A
- Microstructure, High temperature effects**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
- Mischmetal, Alloying additive**
A study of the influence of mischmetal additions to Al-7Si-0.3Mg (J. 14 25/356) alloy. 1283-1292A
- Miscibility**
Retrograde solubility in semiconductors. 2704-2707A
- Mixing**
Intermixing model of continuous casting during a grade transition. 617-632B
- Modulus of elasticity**
Communication: On the in situ formation of TiC and Ti₃C reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A
Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. 1403-1405A
Microstructure and properties of Al₂O₃-Al(Si) and Al₂O₃-Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Modulus of elasticity, Alloying effects**
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A
- Modulus of elasticity, High temperature effects**
Effective elastic moduli of fiber-matrix interphases in high-temperature composites. 165-182A
- Modulus of elasticity, Microstructural effects**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy. 1687-1692A
- Modulus of elasticity, Stress effects**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A
- Modulus of elasticity, Temperature effects**
Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-469A
- Modulus of rupture in bending, Stress effects**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
- Molds**
A water model study of the flow asymmetry inside a continuous slab casting mold. 757-764B
- Molybdenum, Alloying additive**
The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Molybdenum, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Molybdenum, Composite materials**
Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A
- Molybdenum, Extraction**
Zinc reduction of MoO₃ in a self propagating high temperature synthesis process. 315-318B
- Molybdenum, Mechanical properties**
Plastic zone and pileup around large indentations. 3793-3800A
- Molybdenum, Quaternary systems**
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
- Molybdenum, Ternary systems**
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
- Molybdenum compounds, Composite materials**
Bridge toughening enhancement in double-notched MoSi₂/Nb model composites. 909-921A
Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
- Molybdenum compounds, Reactions (chemical)**
Modeling of sequential reactions during microprecipitation synthesis. 961-972A
- Molybdenum steels, Mechanical properties**
Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A
- Monitoring**
The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
- Mossbauer spectroscopy**
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Multilayers, Rolling**
Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A
- Nanomaterials, Microstructure**
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A
- Nanomaterials, Synthesis**
Synthesis of full-density nanocrystalline tungsten carbide by reduction of tungstic oxide at room temperature. 4210-4213A
Synthesis of nanocrystalline Ni₃Cu by sol-gel route. 4213-4216A
- Near net shaping**
Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A
Liquid state infrared processing of SCS-6/Ti-6Al-4V composites. 527-532B

- Phase transformations in condensed systems revisited: industrial applications. 2397-2418A
- The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- The squeeze casting of hypoeutectic binary Al-Cu. 4121-4132A
- Necking**
Simulation of the hot-tension test under cavitating conditions. 3112-3119A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- Necking, Deformation effects**
Micronecking and fracture in cavitated superplastic materials. 1043-1048A
- Necking, Microstructural effects**
Bridge toughening enhancement in double-notched MoSi₂/Nb model composites. 909-921A
- Necking, Stress effects**
Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A
- Neodymium, Binary systems**
Inverse melting in binary systems: morphology and microscopy of catalectic alloys. 979-986B
- Neutron activation analysis**
Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis. 3682-3687A
- Neutron diffraction**
Neutron diffraction study of austempered ductile iron. 923-928A
Real-time observations of the oxidation of mild steel at high temperature by neutron diffraction. 993-997B
- Neutron scattering**
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- New technology**
Alternative technologies in iron and steelmaking. 541-553B
- Nickel, Alloying additive**
Solid-state contributions to densification during liquid-phase sintering. 901-909B
- Nickel, Alloying elements**
Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 203-211B
The production of nickel-zinc alloys by powder injection. 780-787B
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- Nickel, Atomic properties**
Sputter-induced pits on {100} nickel surfaces. 981-993A
- Nickel, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Generalized enthalpy method for multicomponent phase change. 869-879B
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
- Nickel, Bonding**
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Nickel, Crystal growth**
High-speed imaging and analysis of the solidification of undercooled nickel melts. 863-868B
- Nickel, Diffusion**
Hydrogen trapping and permeation in nickel thorium. 2495-2503A
- Nickel, Extraction**
Bioleaching of lateritic nickel ore by ultrasound. 351-354B
A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
Experimental study of splash generation in a flash smelting furnace. 633-646B
Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
- Nickel, Forming**
Reply: Dynamic materials model. Basis and principles. 235-236A
- Nickel, Joining**
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Nickel, Metallography**
An optical method for determining the surface orientation of crystals. 2057-2061A
- Nickel, Oxidation**
The growth and structure of thin oxide films on cerium ion-implanted nickel. 3649-3661A
- Nickel, Ternary systems**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L₁₂ phase field. 5-17A
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₁₂ phase field. 71-79A
Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
Thermodynamic activities and phase boundaries for the alloys of the Ni₃Al-Ni₃Ti pseudobinary section in the Ni-Al-Ti system. 2673-2677A
Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Nickel base alloys**
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- Nickel base alloys, Casting**
Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
- Nickel base alloys, Claddings**
Solidification of an alloy 625 weld overlay. 3612-3620A
The wear behavior between hardfacing materials. 3639-3648A
- Nickel base alloys, Coating**
Isothermal fatigue of an aluminide-coated single-crystal superalloy. I. 353-361A
Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Nickel base alloys, Composite materials**
Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A
Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
- Nickel base alloys, Corrosion**
Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
- Nickel base alloys, Crystal growth**
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. I. Model development and discussion. 4061-4074A
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
- Nickel base alloys, Crystal lattices**
Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures. 2888-2896A
- Nickel base alloys, Forming**
Reply: Dynamic materials model. Basis and principles. 235-236A
- Nickel base alloys, Heat treatment**
High-temperature nitridation of Ni-Cr alloys. 59-69A
Effect of homogenization heat treatment on the microstructure and heat affected zone microfracturing in welded cast alloy 718. 785-790A
Transition between internal and external nitridation of Ni-Ti alloys. 1608-1617A
- Nickel base alloys, Joining**
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Nickel base alloys, Mechanical properties**
The effect of hydrogen on the fracture of alloy X-750. 101-110A
Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys. 879-890A
High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A
Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A

- Nickel base alloys, Metal working**
Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel. 1251-1266A
- Nickel base alloys, Microstructure**
Prediction of grain structures in various solidification processes. 695-705A
Characterization of constitutional liquid film migration in nickel-base alloy 718. 2692-2703A
- Nickel base alloys, Phase transformations**
Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys. 2445-2453A
The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films. 2858-2860A
Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. 3066-3073A
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films. 3753-3759A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Nickel base alloys, Phases (state of matter)**
Nucleation controlled solidification kinetics. 533-547A
The phase field method: simulation of alloy dendritic solidification during recalescence. 657-669A
The breakdown of single-crystal solidification in high refractory nickel-base alloys. 1081-1094A
- Nickel base alloys, Powder technology**
The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material. 145-153A
- Nickel base alloys, Structural hardening**
A study on coherency strain and precipitate morphology via a discrete atom method. 1449-1459A
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature. 1739-1748A
Preferential coarsening of γ' precipitates in Inconel 718 during creep. 3391-3398A
Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Nickel chromium molybdenum steels, Cladding**
Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A
- Nickel chromium molybdenum steels, Heat treatment**
The dependence of complex alloyed steel properties on quenching and tempering conditions. 2852-2858A
- Nickel chromium molybdenum steels, Mechanical properties**
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment. 471-476A
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Nickel chromium molybdenum steels, Phases (state of matter)**
Copper precipitation during continuous cooling and isothermal aging of A710 type steels. 1569-1584A
- Nickel compounds**
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Nickel compounds, Bonding**
Microstructural development in NiAl/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
- Nickel compounds, Composite materials**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
NiTi and NiTi-TiC composites. III. Shape-memory recovery. 193-203A
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A
Ni₃Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
- Nickel compounds, Joining**
Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Nickel compounds, Mechanical properties**
Non-Schmid effects on the behavior of polycrystals, with applications to Ni₃Al. 81-99A
Rafting in superalloys. 513-530A
High-temperature deformation properties of NiAl single crystals. 1229-1240A
Elevated temperature compressive properties of zirconium-modified NiAl. 2628-2641A
Elevated temperature compressive properties of N-doped NiAl. 3170-3180A
- Nickel compounds, Phase transformations**
Molecular dynamics simulation of martensitic transformations in NiAl. 1476-1488A
Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys. 2445-2453A
NiTi and NiTi-TiC composites. IV. Neutron diffraction study of twinning and shape-memory recovery. 2820-2836A
The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films. 2858-2860A
- Nickel compounds, Phases (state of matter)**
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A
- Nickel compounds, Structural hardening**
Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A
- Nickel compounds, Synthesis**
Synthesis of nanocrystalline Ni₃Cu by sol-gel route. 4213-4216A
- Nickel compounds, Thermal properties**
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
- Nickel ores**
Bioleaching of lateritic nickel ore by ultrasound. 351-354B
- Niobium, Alloying additive**
The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 3424-3430A
- Niobium, Alloying elements**
Mechanical alloying of Nb-Al powders. 41-48A
The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-960A
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
- Niobium, Binary systems**
Thermodynamic assessment of the Nb-N system. 3591-3600A
- Niobium, Composite materials**
Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
- Niobium, Diffusion**
Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A
- Niobium, Dopants**
High-temperature oxidation of Ti₃Al-based titanium aluminides in oxygen. 3993-4002A
- Niobium, Heat treatment**
Improved oxidation resistance of group VB refractory metals by Al³⁺ ion implantation. 491-500B
- Niobium, Mechanical properties**
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Niobium, Powder technology**
Milling dynamics. III. Integration of local and global modeling of mechanical alloying devices. 1999-2004A
- Niobium base alloys, Composite materials**
The fracture toughness of niobium-based, in situ composites. 2518-2531A
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Niobium base alloys, Phases (state of matter)**
Phase transformations in Nb-Al-Ti alloys. 1642-1654A
- Niobium compounds, Composite materials**
Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Nitrides**
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₁₆N₂ nitride by interstitial ordering in martensite. 2160-2177A
- Nitriding**
High-temperature nitridation of Ni-Cr alloys. 59-69A
Theoretical treatment of nitriding and nitrocarburizing of iron. 1073-1080A
Transition between internal and external nitridation of Ni-Ti alloys. 1606-1617A

- Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
- Nitrogen, Alloying additive**
Elevated temperature compressive properties of N-doped NIAL. 3170-3180A
- Nitrogen, Alloying elements**
Thermodynamics and long-range order of nitrogen in γ -Fe₃N₄. 1055-1061A
An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ -Fe₃N₄ and ϵ -Fe₂N₃. 1063-1071A
Electron microscopic study of Cr₂N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Nitrogen, Binary systems**
Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
Thermodynamic assessment of the Nb-N system. 3591-3600A
- Nitrogen, Environment**
Effect of nitrogen on the oxidation behavior of Ti₃Al-based intermetallic alloys. 4003-4010A
- Nitrogen, Impurities**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Nitrogen, Quaternary systems**
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
- Nitrogen, Reactions (chemical)**
Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Nitrogen, Solubility**
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B
- Nodular iron**
Modeling of ferrite growth in nodular cast iron. 2209-2220A
- Nodular iron, Crystal growth**
Modeling of ferrite growth in nodular cast iron. 2209-2220A
- Nodular iron, Mechanical properties**
Effect of holding time in the (α - γ) temperature range on toughness of specially austempered ductile iron. 1979-1989A
- Nodular iron, Microstructure**
Neutron diffraction study of austempered ductile iron. 923-928A
- Nonferrous metals, Extraction**
The separation of the solids from the carrier gas during submerged powder injection. 773-779B
- Notch sensitivity**
A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Notch strength**
Notch fracture in γ -titanium aluminides. 3903-3912A
- Notch strength, Alloying effects**
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Notch strength, Welding effects**
Cleavage initiation in the intercritically reheated coarse-grained heat affected zone. II. Failure criteria and statistical effects. 3019-3029A
- Nuclear fusion reactors, Irradiation**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Nuclear power generation**
Gibbs energies of formation of chromium carbides. 1919-1924A
- Nuclear reactor components, Corrosion**
Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Nuclear reactor components, Extrusion**
Microsegregation of oxygen in Zr-2.5Nb alloy materials. 431-440A
- Nucleation**
Atomistic Mechanisms of Nucleation and Growth in Solids. Modeling texture change during the static recrystallization of interstitial free steels. 155-164A
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
High-speed imaging and analysis of the solidification of undercooled nickel melts. 863-868B
Creep deformation of dispersion-strengthened copper. 1217-1227A
Characterization of a massive transformation by microstructural analysis. 1511-1516A
Formation of bainite in ferrous and nonferrous alloys through sympathetic nucleation and ledge growth mechanism. 1533-1543A
- Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys. 1655-1667A
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Nucleation, Cooling effects**
The role of grain corners in nucleation. 480-483A
Prediction of grain structures in various solidification processes. 695-705A
- Nucleation, Heating effects**
Effect of superheat on the solidification structures of AISI 310S austenitic stainless steel. 287-296B
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
Characterization of the formation of α_1 plates from the β_3 phase in a Cu-Zn-Au alloy. 719-724A
Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A
- Nucleation, Radiation effects**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Nucleation, Stress effects**
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
- Nucleation, Temperature effects**
Rafting in superalloys. 513-530A
Nucleation controlled solidification kinetics. 533-547A
Banded solidification microstructures. 625-634A
Morphological instabilities of lamellar eutectics. 635-656A
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Numerical analysis**
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy. 2765-2783A
Equiaxed dendritic solidification with convection. III. Comparisons with NH₄Cl-H₂O experiments. 2784-2795A
Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
- Oils, Environment**
Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A
- Optical microscopy**
Inverse melting in binary systems: morphology and microscopy of catatctic alloys. 979-988B
An optical method for determining the surface orientation of crystals. 2057-2061A
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃Ta₂ alloy powders. 3267-3278A
Infrared transient-liquid-phase joining of SCS-6/B21S titanium matrix composite. 4011-4018A
Microstructural features of friction welded MA 956 superalloy material. 4019-4029A
Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Order disorder**
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₃N₂ nitride by interstitial ordering in martensite. 2160-2177A
Thermoelastic martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
- Order disorder, Heating effects**
Characterization of the formation of α_1 plates from the β_3 phase in a Cu-Zn-Au alloy. 719-724A
- Order disorder, Temperature effects**
Rafting in superalloys. 513-530A
- Organic compounds**
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B

- Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
- Orientation**
An optical method for determining the surface orientation of crystals. 2057-2061A
- Oscillations**
Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
- Ostwald ripening**
Ostwald ripening in ternary alloys. 937-943A
Ostwald ripening of solid-liquid Pb-Sn dispersions. 2470-2478A
Precipitation behaviors in Al-Cu-Mg and 2024 aluminum alloys. 2479-2494A
Preferential coarsening of γ' precipitates in Inconel 718 during creep. 3391-3398A
M₂C precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3468-3472A
- Oxidation**
Probing the initial stage of synthesis of Al₂O₃/Al composites by directed oxidation of Al-Mg alloys. 43-50B
Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams. 65-69B
Reoxidation of aluminum in Fe-Al-M (M=C, Mn, and Ti) melts with CaO-Al₂O₃-FeO (3 mass%) slags. 423-431B
On the stable Mg-Zn-Y quasicrystals. 1779-1784A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Oxidation, Alloying effects**
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Oxidation, Composition effects**
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
- Oxidation, Environmental effects**
Oxidation-reduction equilibrium of Cu²⁺/Cu⁺ in binary alkaline sulfate melts. 385-392B
- Oxidation, High temperature effects**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
- Oxidation rate**
Probing the initial stage of synthesis of Al₂O₃/Al composites by directed oxidation of Al-Mg alloys. 43-50B
- Oxidation rate, High temperature effects**
Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3279-3291A
- Oxidation rate, Radiation effects**
The growth and structure of thin oxide films on cerium ion-implanted nickel. 3649-3661A
- Oxidation resistance**
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Oxidation resistance, Alloying effects**
High-temperature oxidation of Ti₃Al-based titanium aluminides in oxygen. 3993-4002A
- Oxidation resistance, Coating effects**
Microstructural analysis and oxidation behavior of laser-processed Fe-Cr-Al-Y alloy coatings. 381-390A
- Oxidation resistance, Environmental effects**
Effect of nitrogen on the oxidation behavior of Ti₃Al-based intermetallic alloys. 4003-4010A
- Oxidation resistance, Radiation effects**
Improved oxidation resistance of group VB refractory metals by Al³⁺ ion implantation. 491-500B
- Oxides, Composite materials**
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
- Oxides, Reactions (chemical)**
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Oxides, Reduction (chemical)**
Discussion of "Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams" and reply. 693-694B
- Oxidizing atmospheres**
Oxidation-reduction equilibrium of Cu²⁺/Cu⁺ in binary alkaline sulfate melts. 385-392B
- Oxygen, Alloying additive**
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B
- Oxygen, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Oxygen, Impurities**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
Microsegregation of oxygen in Zr-2.5Nb alloy materials. 431-440A
Thermodynamic properties of oxygen in yttrium-oxygen solid solutions. 839-845B
- Oxygen, Quaternary systems**
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Oxygen, Ternary systems**
Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
- Pack cementation**
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A
- Pack silicizing**
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A
- Palladium, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Partial pressure**
Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
- Particle shape**
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A
- Particle size**
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B
A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
Synthesis of nanocrystalline Ni₃Cu by sol-gel route. 4213-4216A
- Particle size, High temperature effects**
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Particle size, Welding effects**
Microstructural features of friction welded MA 956 superalloy material. 4019-4029A
- Particle size distribution**
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B
Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
Synthesis of nanocrystalline Ni₃Cu by sol-gel route. 4213-4216A
- Particle size distribution, Heating effects**
The control of grain size and distribution of particles in a (6061 alloy)_m/(Al₂O₃)_p composite by solutionizing treatment. 2023-2034A
- Particle size distribution, Welding effects**
Microstructural features of friction welded MA 956 superalloy material. 4019-4029A
Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A

- Particulate composites, Brazing**
A model for coupled growth of reaction layers in reactive brazing of ZrO_2 -toughened Al_2O_3 . 3630-3638A
- Particulate composites, Casting**
Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
Solidification of particle-reinforced metal-matrix composites. 663-671B
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B
- Particulate composites, Coatings**
Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A
- Particulate composites, Extrusion**
Mathematical modeling of the extrusion of 6061/ Al_2O_3 /20p composite. 4095-4111A
Modeling particle fracture during the extrusion of aluminum/alumina composites. 4113-4120A
- Particulate composites, Heat treatment**
The control of grain size and distribution of particles in a (6061 alloy)_m/(Al_2O_3)_p composite by solutionizing treatment. 2023-2034A
- Particulate composites, Mechanical properties**
NITI and NITI-TiC composites. II. Compressive mechanical properties. 183-191A
NITI and NITI-TiC composites. III. Shape-memory recovery. 193-203A
Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces. 213-219A
Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
Creep deformation of dispersion-strengthened copper. 1217-1227A
Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A
Analysis of damping in particle-reinforced superplastic zinc composites. 2565-2573A
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites. 2653-2662A
Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. 2837-2842A
Failure characteristics of 6061/ Al_2O_3 /15_p and 2014/ Al_2O_3 /15_p composites as a function of loading rate. 3095-3107A
High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
 Ni_3Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A
Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatic pressed white iron matrix composites. 4171-4181A
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatic pressed white iron matrix composites. 4183-4191A
- Particulate composites, Microstructure**
Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
- Particulate composites, Physical properties**
Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Particulate composites, Powder technology**
Microstructural changes in a mechanically alloyed Al-6.2Zn-2.5Mg-1.7Cu alloy (7010) with and without particulate SiC reinforcement. 3718-3726A
- Particulate composites, Structural hardening**
Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
- Particulate composites, Synthesis**
Probing the initial stage of synthesis of Al_2O_3 /Al composites by directed oxidation of Al-Mg alloys. 43-50B
- Communication: On the in situ formation of TiC and Ti_3C_2 reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A
- Passivation**
Fundamental studies of copper anode passivation during electrorefining. I. Development of techniques. 393-398B
Fundamental studies of copper anode passivation during electrorefining. II. Surface morphology. 610-616B
- Pearlite**
Effect of holding time in the (α - γ) temperature range on toughness of specially austempered ductile iron. 1979-1989A
- Pearlite, Deformation effects**
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Pearlite, Heating effects**
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. 111-118A
- Pearlite, Temperature effects**
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Peel strength, Stress effects**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
- Penetration**
Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A
- Peritectic reactions**
Generalized enthalpy method for multicomponent phase change. 869-879B
- Peritectic reactions, Alloying effects**
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
- Peritectic reactions, Cooling effects**
Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 999-1014B
- Permanent mold casting**
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
- Permeability**
Hydrogen trapping and permeation in nickel thoria. 2495-2503A
- Permeability, Microstructural effects**
Permeability of microporous carbon preforms. 3669-3674A
- Petroleum pipelines, Corrosion**
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel. 3601-3611A
- Phase boundary**
Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 465-474B
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni_3Al . 3569-3575A
- Phase boundary, Composition effects**
An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in γ - $Fe_{1-x}N_x$ and ϵ - Fe_2N_{1-x} . 1063-1071A
- Phase boundary, Cooling effects**
Ferrite nucleation and growth during continuous cooling. 1544-1553A
- Phase boundary, Heating effects**
Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation. 775-783A
- Phase boundary, Temperature effects**
Overview of geometric effects on coarsening of mushy zones. A new characterization method of the microstructure using the macroscopic composition gradient in alloys. 557-567A
945-949A
- Phase decomposition**
Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A
Phase transformations in condensed systems revisited: industrial applications. 2397-2418A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A

- Phase decomposition, Alloying effects**
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
Retardation of intermetallic phase formation in experimental superferitic stainless steels. 2436-2444A
- Phase decomposition, Cooling effects**
Ferrite nucleation and growth during continuous cooling. 1544-1553A
Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1554-1568A
- Phase decomposition, Heating effects**
Phase transformations in Nb-Al-Ti alloys. 1642-1654A
- Phase decomposition, Radiation effects**
The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll. 3149-3161A
- Phase decomposition, Temperature effects**
A study of the thermal decomposition of BaCO_3 . 409-416B
- Phase diagrams**
Liquidus temperatures for primary crystallization of cryolite in molten salt systems of interest for aluminum electrolysis. 739-744B
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Generalized enthalpy method for multicomponent phase change. 869-879B
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
Inverse melting in binary systems: morphology and microscopy of catatctic alloys. 979-986B
Thermodynamic studies and the phase diagram of the Li-Mg system. 2419-2428A
Experimental study of the phase equilibria in the Fe-Mn-Al system. 2429-2435A
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
Thermodynamic assessment of the Nb-N system. 3591-3600A
Synthesis of RuAl by reactive powder processing. 3688-3699A
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Phase stability**
Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
Effects of flow on morphological stability during directional solidification. 583-593A
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
A high resolution transmission electron microscopy study of interfaces between the γ , β_2 , and α_2 phases in a Ti-Al-Mo alloy. 1618-1629A
On the stable Mg-Zn-Y quasicrystals. 1779-1784A
Microstructural aspects of the dissolution and melting of Al_2Cu phase in Al-Si alloys during solution heat treatment. 1785-1798A
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A
Thermoelastic martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
Structural stability of super duplex stainless steel welds and its dependence on tungsten and copper. 2196-2208A
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Phase stability, Alloying effects**
Mechanical alloying of Nb-Al powders. 41-48A
Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys. 2445-2453A
- Phase stability, Environmental effects**
Oxidation-reduction equilibrium of $\text{Cu}^{2+}/\text{Cu}^0$ in binary alkaline sulfate melts. 385-392B
- Phase stability, Heating effects**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L_2 phase field. 5-17A
- Phase stability, Temperature effects**
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
- Phase transformations**
Dynamic behavior of a liquid/liquid interface at an oscillating wall. 305-314B
Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
Effects of flow on morphological stability during directional solidification. 583-593A
Thermodynamics of sulfur in the BaO-MnO-SiO_2 flux system. 652-657B
Interface attachment kinetics in alloy solidification. 671-686A
- An adaptive mesh refinement scheme for solidification problems. 707-717A
Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
Generalized enthalpy method for multicomponent phase change. 869-879B
Ostwald ripening in ternary alloys. 937-943A
Crystal shapes and phase equilibria: a common mathematical basis. 1431-1440A
Characterization of a massive transformation by microstructural analysis. 1511-1516A
The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys. 1655-1667A
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A
- Phase transformations, Alloying effects**
Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 203-211B
Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
The breakdown of single-crystal solidification in high refractory nickel-base alloys. 1081-1094A
Effect of strain rate and temperature on the flow stress of β -phase titanium-hydrogen alloys. 1303-1312A
Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Phase transformations, Composition effects**
Hydride formation and decomposition in electrolytically charged metastable austenitic stainless steels. 29-40A
- Phase transformations, Cooling effects**
The role of grain corners in nucleation. 480-483A
Ferrite nucleation and growth during continuous cooling. 1544-1553A
Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1554-1568A
- Phase transformations, Deformation effects**
Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
- Phase transformations, Field effects**
On the reaction between Fe-Ti and Fe-C liquids under microgravity. 407-414A
- Phase transformations, Heating effects**
Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation. 775-783A
Bainitic microstructures formed by split isothermal transformation in an Fe-C-Si-Mn-Mo steel. 1141-1147A
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
Phase transformations in Nb-Al-Ti alloys. 1642-1654A
- Phase transformations, Stress effects**
Computer simulation of ledge migration under elastic interaction. 1489-1498A
- Phase transformations, Temperature effects**
A study of the thermal decomposition of BaCO_3 . 409-416B
Overview of geometric effects on coarsening of mushy zones. 557-567A
Banded solidification microstructures. 625-634A
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
A new characterization method of the microstructure using the macroscopic composition gradient in alloys. 945-949A
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Phases (state of matter)**
The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. 567-576B
 M_{23}C_6 carbide equilibria in the Fe-Cr-C system. 701-704B
Microstructure and phase relations in a powder-processed Ti-22Al-12Nb alloy. 1121-1126A
Crystal shapes and phase equilibria: a common mathematical basis. 1431-1440A
Control of iron nitride layers growth kinetics in the binary Fe-N system. 1823-1835A
- Phases (state of matter), Composition effects**
An evaluation of the Fe-N phase diagram considering long-range order of nitrogen atoms in $\gamma\text{-Fe}_4\text{N}_{1-x}$ and $\epsilon\text{-Fe}_2\text{N}_{1-x}$. 1063-1071A
Electron microscopic study of Cr_2N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Phases (state of matter), Deformation effects**
Reply: Dynamic materials model. Basis and principles. 235-236A

- Phases (state of matter), Radiation effects**
Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A
- Phosphorus, Alloying additive**
Influence of phosphorus addition on the surface tension of liquid iron and segregation of phosphorus on the surface of Fe-P alloy. 71-79B
- Phosphorus, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Phosphorus, Impurities**
Thermodynamics of phosphorus in molten silicon. 937-941B
- Phosphorus compounds, Ternary systems**
Chemical potentials of components of the system $\text{CaO}+\text{P}_2\text{O}_5+\text{Fe}_2\text{O}_3$ at 1673K. 595-603B
- Photoelectron spectroscopy**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Pistons, Materials selection**
Structure of phases in the $\delta\text{-Al}_2\text{O}_3$ fiber studied by convergent beam electron diffraction. 3318-3329A
- Pitting (corrosion), Heating effects**
Corrosion fatigue in nitrocarburized quenched and tempered steels. 1333-1346A
- Pitting (corrosion), Microstructural effects**
Retardation of intermetallic phase formation in experimental superferitic stainless steels. 2436-2444A
- Plasma arc welding**
Dilution in single pass arc welds. 481-489B
The wear behavior between hardfacing materials. 3639-3648A
- Plastic deformation**
Non-Schmid effects on the behavior of polycrystals, with applications to Ni_3Al . 81-99A
Communication: Discussion of "Modeling of dynamic materials behavior. A critical evaluation of the dissipator power cocontent approach". 232-235A
A study of typical yields of metals. 731-736A
High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
Influence of plastic deformation upon the half-width of engineering metallic materials in hard state. 3662-3668A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
Plastic zone and pileup around large indentations. 3793-3800A
Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A
- Plastic deformation, Composition effects**
Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
- Plastic deformation, Diffusion effects**
Hydrogen-induced cleavage fracture of Fe_3Al -based intermetallics. 3949-3956A
- Plastic deformation, High temperature effects**
High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A
- Plastic deformation, Impurity effects**
The effect of hydrogen on the fracture of alloy X-750. 101-110A
- Plastic deformation, Microstructural effects**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
- Plastic deformation, Radiation effects**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Plastic deformation, Stress effects**
Plastic anisotropy of sheets with continuously varying anisotropic parameters and flow stress. 317-326A
Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A
Rafting in superalloys. 513-530A
Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply. 819-821A
- Plastic deformation, Temperature effects**
Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A
- Plastic flow**
Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
Flow and fracture of bimaterial systems based on aluminum alloys. 3937-3947A
- Plastic flow, Temperature effects**
Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
- Plasticity**
High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
- Plasticity, Composition effects**
A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-406B
- Plasticity, Environmental effects**
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment. 471-476A
- Plasticity, Heating effects**
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation. 3503-3512A
- Plasticity, Impurity effects**
The effect of hydrogen on the fracture of alloy X-750. 101-110A
- Plasticity, Microstructural effects**
The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet. 3250-3258A
- Plate metal, Coating**
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Plate metal, Mechanical properties**
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Plate metal, Phase transformations**
A study on morphology and plate mean dimensions in Fe-Ni and Fe-Ni-Cr alloys. 973-980A
- Plate metal, Phases (state of matter)**
Characterization of the formation of α_1 plates from the β_2 phase in a Cu-Zn-Au alloy. 719-724A
Austenite decomposition during continuous cooling of an HSLA-80 plate steel. 1554-1568A
- Platinum, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Plutonium, Extraction**
Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions. 141-146B
- Point defects, Radiation effects**
Sputter-induced pits on {100} nickel surfaces. 981-993A
- Poissons ratio, Alloying effects**
Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A
- Pole figures**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Pollution abatement**
Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization. 1031-1044B
- Porosity**
Comparative study of pore structure evolution during solvent and thermal debinding of powder injection molded parts. 245-253A
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Porosity, Cooling effects**
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
- Porous materials, Physical properties**
Permeability of microporous carbon preforms. 3669-3674A
- Potassium, Chemical analysis**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B

- Potassium, Dopants**
Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Powder coating**
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Powder coatings, Materials selection**
Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Powder compacts, Mechanical properties**
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A
- Powder metallurgy**
The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material. 145-153A
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Powder metallurgy parts, Machining**
Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Powder technology**
A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-408B
- Precious metal alloys, Mechanical properties**
High-temperature behavior of precious metal base composites. 2642-2652A
- Precipitates**
Structural stability of super duplex stainless steel weld metals and its dependence on tungsten and copper. 2196-2208A
Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures. 2888-2896A
The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A
Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Precipitates, Crystal growth**
Ostwald ripening of solid-liquid Pb-Sn dispersions. 2470-2478A
Precipitation behaviors in Al-Cu-Mg and 2024 aluminum alloys. 2479-2494A
Preferential coarsening of γ' precipitates in Inconel 718 during creep. 3391-3398A
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
 $M_{23}C_6$ precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3466-3472A
- Precipitation**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L_{12} phase field. 71-79A
The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study. 577-584B
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation. 1799-1805A
Microstructural development in NIAI/Ni-Si-B/Ni transient liquid phase bonds. 1925-1931A
Modeling of microsegregation in macrosegregation computations. 2314-2327A
Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Precipitation, Alloying effects**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013. 19-27A
The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-960A
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Precipitation, Composition effects**
Electron microscopic study of Cr_2N formation in thermally aged 316LN austenitic stainless steels. 1175-1186A
- Precipitation, Cooling effects**
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations. 415-429A
Copper precipitation during continuous cooling and isothermal aging of A710 type steels. 1569-1584A
- Precipitation, Deformation effects**
Reply: Dynamic materials model. Basis and principles. 235-236A
Precipitation behavior in a medium carbon, Ti-V-N microalloyed steel. 1149-1165A
- Precipitation, Field effects**
On the reaction between Fe-Ti and Fe-C liquids under microgravity. 407-414A
- Precipitation, Heating effects**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L_{12} phase field. 5-17A
High-temperature nitridation of Ni-Cr alloys. 59-69A
Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
Microstructural stability on aging of an $\alpha+\beta$ titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
Transition between internal and external nitridation of Ni-Ti alloys. 1606-1617A
Phase transformations in Nb-Al-Ti alloys. 1642-1654A
 $M_{23}C_6$ precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3466-3472A
- Precipitation, High temperature effects**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A
- Precipitation, Radiation effects**
Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A
- Precipitation, Stress effects**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
A study on coherency strain and precipitate morphology via a discrete atom method. 1449-1459A
Effect of uniaxial stress on coarsening of precipitate clusters. 1460-1475A
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
- Precipitation, Temperature effects**
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal. 763-774A
A new characterization method of the microstructure using the macroscopic composition gradient in alloys. 945-949A
The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- Precipitation hardening**
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature. 1739-1748A
Phase transformations in condensed systems revisited: Industrial applications. 2397-2418A
Precipitation behaviors in Al-Cu-Mg and 2024 aluminum alloys. 2479-2494A
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
Alloy phase analysis from measurements of bulk magnetic properties. 2958-2965A
A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A
On the effect of stress on nucleation and growth of precipitates in an Al-Cu-Mg-Ag alloy. 3431-3444A
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Precipitation hardening, Alloying effects**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/ Al_2O_3 metal matrix composites. 2005-2012A
- Precipitation hardening, Stress effects**
A study on coherency strain and precipitate morphology via a discrete atom method. 1449-1459A
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Precipitation hardening alloys, Mechanical properties**
Microstructure and mechanical behavior of Cr-Cr₂Hf in situ intermetallic composites. 2583-2592A
Intergranular fracture in some precipitation-hardened aluminum alloys at low temperatures. 3081-3088A
- Precipitation hardening steels, Mechanical properties**
Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels. 2510-2517A

- Precision forming**
Comparative study of pore structure evolution during solvent and thermal debinding of powder injection molded parts. 245-253A
- Preferred orientation, Stress effects**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Preforming**
Permeability of microporous carbon preforms. 3669-3674A
- Press forming**
Forming of tailor-welded blanks. 2605-2618A
- Pressure**
Pressure dependence of anomalous diffusion of zirconium in β -titanium. 1807-1814A
- Pressure castings, Microstructure**
The squeeze casting of hypoeutectic binary Al-Cu. 4121-4132A
- Pressure vessels, Corrosion**
Stress corrosion cracking of pressure vessel steels in high-temperature caustic aluminate solutions. 1327-1331A
- Pressure vessels, Extrusion**
Microsegregation of oxygen in Zr-2.5Nb alloy materials. 431-440A
- Pressure vessels, Irradiation**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Pressure vessels, Materials selection**
Conditioning monitoring by microstructural evaluation of cumulative fatigue damage. 3841-3851A
- Pressure vessels, Metal working**
Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Probes, Development**
The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
- Process control**
The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization. 1031-1044B
- Projectiles**
Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
- Proof stress, Composition effects**
High-temperature behavior of precious metal base composites. 2642-2652A
- Proof stress, Microstructural effects**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Prosthetics, Materials selection**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Protective coatings, Heat treatment**
Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment. 2293-2296A
- Protective coatings, Melting**
The production of nickel-zinc alloys by powder injection. 780-787B
- Purification**
Thermodynamics of phosphorus in molten silicon. 937-941B
- Pyrometallurgy**
Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions. 141-146B
Electrical conductivity of molten cryolite based mixtures obtained with a tube type cell made of pyrolytic boron nitride. 255-261B
Zinc reduction of MoO_3 in a self propagating high temperature synthesis process. 315-318B
A kinetic study of the reaction of zinc oxide with iron powder. 363-374B
Chemical potentials of oxygen for mixtures of $\text{CaO(s)} + \text{Ca}_2\text{P}_2\text{O}_7\text{(s)} + (\text{CaO} + \text{P}_2\text{O}_5 + \text{Fe}_2\text{O}_3)$ melts and $\text{Ca}_2\text{P}_2\text{O}_7\text{(s)} + \text{Ca}_3\text{P}_2\text{O}_7\text{(s)} + (\text{CaO} + \text{P}_2\text{O}_5 + \text{Fe}_2\text{O}_3)$ melts. 375-378B
Oxidation-reduction equilibrium of $\text{Cu}^{2+}/\text{Cu}^+$ in binary alkaline sulfate melts. 385-392B
The separation of the solids from the carrier gas during submerged powder injection. 773-779B
- Qualitative analysis**
Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis. 3682-3687A
- Quantitative analysis**
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity. 371-379A
- Quasicrystalline structure**
On the stable Mg-Zn-Y quasicrystals. 1779-1784A
- High-resolution electron microscopy analysis of structural defects in a (2/1, 5/3)-type approximant of a decagonal quasicrystal of an Al-Pd-Mn alloy. 2911-2915A
- Quaternary systems, Phases (state of matter)**
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
- Quenching (cooling)**
Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment. 2293-2296A
High cycle fatigue behavior of gas-carburized medium carbon Cr-Mo steel. 2557-2564A
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy. 3983-3991A
- Quenching and tempering**
Corrosion fatigue in nitrocarburized quenched and tempered steels. 1333-1346A
The dependence of complex alloyed steel properties on quenching and tempering conditions. 2852-2858A
- Radiation damage**
Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A
- Radioactive waste**
Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
- Rapid solidification**
Interface attachment kinetics in alloy solidification. 671-686A
High-speed imaging and analysis of the solidification of undercooled nickel melts. 863-868B
Identification of precipitate phases in a mechanically alloyed rapidly solidified Al-Fe-Ce alloy. 1033-1041A
Rapid solidification processing of a Mg-Li-Si-Ag alloy. 1363-1370A
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
- Reaction kinetics**
Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 465-474B
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. II. The kinetics of particle nucleation, growth, and dispersion. 585-594B
Reduction of FeO in smelting slags by solid carbon: experimental results. 717-730B
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe_3N_2 nitride by interstitial ordering in martensite. 2160-2177A
- Reaction kinetics, Composition effects**
On the role of magnesium and silicon in the formation of alumina from aluminum alloys by means of DIMOX processing. 2094-2099A
- Reactions (chemical)**
Symposium on In Situ Reactions for Synthesis of Composites, Ceramics, and Intermetallics. II.
A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
- Recovery, Alloying effects**
Modeling recovery and recrystallization kinetics in cold-rolled Ti-Nb stabilized interstitial-free steel. 3410-3423A
- Recrystallization**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L_{12} phase field. 71-79A
Modeling texture change during the static recrystallization of interstitial free steels. 155-164A
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. 2947-2957A
Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Recrystallization, Alloying effects**
The effect of iron and manganese on the recrystallization behavior of hot-rolled and solution-heat-treated aluminum alloy 6013. 19-27A

- The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-960A
- Modeling recovery and recrystallization kinetics in cold-rolled Ti-Nb stabilized interstitial-free steel. 3410-3423A
- Recrystallization, Deformation effects**
Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
- Recrystallization, Heating effects**
Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A
- Reduction (chemical), Environmental effects**
Oxidation-reduction equilibrium of $\text{Cu}^{2+}/\text{Cu}^+$ in binary alkaline sulfate melts. 385-392B
- Relaxation**
Internal friction in hydrogen-charged CrNi and CrNiMn austenitic stainless steels. 1815-1821A
- Residual stress**
The Bauschinger effect in a SiC/Al composite. 995-1001A
High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A
Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
- Residual stress, Cooling effects**
Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A
- Residual stress, Corrosion effects**
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Residual stress, Field effects**
Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B
- Residual stress, Microstructural effects**
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Residual stress, Welding effects**
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel. 3162-3169A
- Residues**
The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. 567-576B
- Resistivity**
Physical modeling studies of electrolyte flow due to gas evolution and some aspects of bubble behavior in advanced Hall cells. III. Predicting the performance of advanced Hall cells. 19-27B
- Resistivity, Composition effects**
A study of the influence of mischmetal additions to Al-7Si-0.3Mg (LM 25/356) alloy. 1263-1292A
- Resistivity, Microstructural effects**
Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Resistivity, Temperature effects**
Electrical conductivity of molten cryolite based mixtures obtained with a tube type cell made of pyrolytic boron nitride. 255-261B
- Retained austenite, Crystal lattices**
Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Retained austenite, Heating effects**
Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites. 4171-4181A
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites. 4183-4191A
- Rhenium, Alloying elements**
The breakdown of single-crystal solidification in high refractory nickel-base alloys. 1081-1094A
- Rheological properties, Composition effects**
A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-408B
- Rhodium, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Roasting**
Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 465-474B
- Rockwell hardness**
Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment. 2293-2296A
- Rockwell hardness, Alloying effects**
Effect of magnesium on the aging behavior of Al-Zn-Mg-Cu/Al₂O₃ metal matrix composites. 2005-2012A
- Rod milling**
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃₃Ta₆₇ alloy powders. 3267-3278A
- Rolling contact**
Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Rolling texture**
Modeling recrystallization kinetics, grain sizes, and textures during multipass hot rolling. 4133-4144A
- Rolls, Irradiation**
The effect of high-energy electron-beam irradiation on microstructural modification of a high-speed steel roll. 3149-3161A
- Roughness**
Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A
- Ruthenium, Binary systems**
Standard enthalpies of formation of dysprosium alloys, Dy+Me (Me=Ni, Ru, Rh, Pd, Ir, and Pt), by high-temperature direct synthesis calorimetry. 417-422B
- Ruthenium, Ternary systems**
Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
- Ruthenium base alloys, Powder technology**
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Ruthenium compounds, Powder technology**
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Rutile, Reduction (chemical)**
Preoxidation and hydrogen reduction of ilmenite in a fluidized bed reactor. 731-738B
- S N diagrams**
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Sag**
Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Salt water, Environment**
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites. 2653-2662A
The influence of aqueous environments on low ΔK and high ΔK fatigue crack propagation behavior in low carbon structural steels. 2678-2685A
- Samarium, Binary systems**
Inverse melting in binary systems: morphology and microscopy of catatctic alloys. 979-986B
- Samarium, Quaternary systems**
Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Sapphire, Composite materials**
Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3279-3291A
- Scale (corrosion)**
A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3279-3291A
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Scale (corrosion), Metallography**
Real-time observations of the oxidation of mild steel at high temperature by neutron diffraction. 993-997B
- Scanning electron microscopy**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
Inverse melting in binary systems: morphology and microscopy of catatctic alloys. 979-986B

- Real-time observations of the oxidation of mild steel at high temperature by neutron diffraction. 993-997B
- The formation mechanism(s), morphology, and crystallography of ferrite sideplates. 1517-1532A
- The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
- Thermally assisted and mechanically driven solid-state reactions for formation of amorphous $Al_{13}Ta_{87}$ alloy powders. 3267-3278A
- Discussion of "Effects of tensile stress on microstructural change of eutectoid Zn-Al alloy" and authors' reply. 3330-3335A
- Shear ligament phenomena in Fe_3Al intermetallics and micro-mechanics of shear ligament toughening. 3817-3825A
- Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
- Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
- Notch fracture in γ -titanium aluminides. 3903-3912A
- High-temperature oxidation of Ti_3Al -based titanium aluminides in oxygen. 3993-4002A
- Effect of nitrogen on the oxidation behavior of Ti_3Al -based intermetallic alloys. 4003-4010A
- Infrared transient-liquid-phase joining of SCS-6/ β 21S titanium matrix composite. 4011-4018A
- Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy. 4085-4093A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Secondary hardening**
Effect of alloying additions on fracture behavior of molybdenum-containing secondary hardening steels. 3343-3346A
- M_2C precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3466-3472A
- Segregations**
Theoretical modeling of densification during activated solid-state sintering. 441-450A
- The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
- Modeling of microsegregation in macrosegregation computations. 2314-2327A
- A model for macrosegregation and its application to Al-Cu castings. 2708-2721A
- Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy. 2765-2783A
- Equiaxed dendritic solidification with convection. III. Comparisons with NH_4CH_3O experiments. 2784-2795A
- Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- Nonequilibrium grain-boundary segregation and ductile-brittle transition in Fe-Mn-Ni-Ti age-hardening alloy. 3059-3065A
- Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
- Segregations, Alloying effects**
Influence of phosphorus addition on the surface tension of liquid iron and segregation of phosphorus on the surface of Fe-P alloy. 71-79B
- Segregations, Cooling effects**
Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel. 277-285B
- Macrosegregation during dendritic arrayed growth of hypoeutectic Pb-Sn alloys: influence of primary arm spacing and mushy zone length. 999-1014B
- The squeeze casting of hypoeutectic binary Al-Cu. 1353-1362A
- Segregations, Field effects**
Convection during thermally unstable solidification of Pb-Sn in a magnetic field. 4121-4132A
- Segregations, Heating effects**
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 1095-1110A
- Neutron diffraction study of austempered ductile iron. 785-790A
- Segregations, Impurity effects**
Microsegregation of oxygen in Zr-2.5Nb alloy materials. 923-928A
- Segregations, Radiation effects**
A model describing neutron irradiation-induced segregation to grain boundaries in dilute alloys. 431-440A
- Seizing, Composition effects**
Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed. 3381-3390A
- 3513-3523A
- Selenium, Alloying additive**
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B
- Selenium, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Self-propagating synthesis**
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Self-propagating synthesis, Pressure effects**
Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends. 2130-2139A
- Semiconductors, Solubility**
Retrograde solubility in semiconductors. 2704-2707A
- Sensitizing**
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Sensors**
Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Sensors, Development**
The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
- Sensors, Materials selection**
Development of a magnetoelastic resonant sensor using iron-rich, nonzero magnetostrictive amorphous alloys. 3203-3213A
- Serrated yielding, Temperature effects**
Manifestations of dynamic strain aging in soft-oriented NIAI single crystals. 3542-3557A
- Service life, Composition effects**
Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A
- Shaft furnaces**
Modeling and experimental study of gaseous oxidation of liquid iron alloys. 852-862B
- Shape, Pressure effects**
Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B
- Shape memory**
The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films. 2858-2860A
- Shape memory, Cooling effects**
NiTi and NiTi-TiC composites. III. Shape-memory recovery. 193-203A
- Shape memory, Heating effects**
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films. 3753-3759A
- Shape memory, Microstructural effects**
Temperature dependent deformation of polydomain phases in an In-22.5 at.% Ti shape memory alloy. 1687-1692A
- Shape memory, Stress effects**
Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
- Shape memory, Temperature effects**
Influence of training time and temperature on shape memory effect in Cu-Zn-Al alloys. 3108-3111A
- Shape memory alloys, Heat treatment**
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films. 3753-3759A
- Shape memory alloys, Phase transformations**
Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
- Thermoelectric martensite and shape memory effect in ductile Cu-Al-Mn alloys. 2187-2195A
- Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. 3066-3073A
- Influence of training time and temperature on shape memory effect in Cu-Zn-Al alloys. 3108-3111A
- Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Shear modulus**
Communication: On the in situ formation of TiC and Ti_2C reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A
- Shear modulus, Alloying effects**
Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A
- Shear properties**
A comprehensive dynamical study of nucleation and growth in a one-dimensional shear martensitic transition. 1203-1216A

- Shear properties, Composition effects**
Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
- Shear properties, Microstructural effects**
Bridge toughening enhancement in double-notched MoSi_2/Nb model composites. 909-921A
- Shear strength**
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Shear stress**
Water model experiment on the liquid flow behavior in a bottom blown bath with top layer. 35-41B
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Shear stress, Temperature effects**
Manifestations of dynamic strain aging in soft-oriented NIAI single crystals. 3542-3557A
- Sheet metal, Heat treatment**
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
- Sheet metal, Mechanical properties**
Plastic anisotropy of sheets with continuously varying anisotropic parameters and flow stress. 317-326A
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- Sheet metal, Rolling**
Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A
- Sheet metal, Surface properties**
Measurement of friction under sheet forming conditions. 3971-3981A
- Sheet metal, Welding**
Forming of tailor-welded blanks. 2605-2616A
- Shielded metal arc welding**
Structural stability of super duplex stainless weld metals and its dependence on tungsten and copper. 2196-2208A
- Shock loading**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Shock waves**
Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
- Short range order**
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A
- Shot peening**
Influence of plastic deformation upon the half-width of engineering metallic materials in hard state. 3662-3668A
- Shrinkage, Cooling effects**
Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation. 81-99B
- Shrinkage, Radiation effects**
Sputter-induced pits on {100} nickel surfaces. 961-993A
- Silicides, Coatings**
The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A
- Silicides, Composite materials**
Bridge toughening enhancement in double-notched MoSi_2/Nb model composites. 909-921A
Loading rate and test temperature effects on fracture of in situ niobium silicide-niobium composites. 3292-3306A
Fracture and fatigue-crack growth behavior in ductile-phase toughened molybdenum disilicide: effects of niobium wire vs. particulate reinforcements. 3781-3792A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Silicides, Oxidation**
Phase relations of a silicide/silica reaction couple at 2273K. 271-276B
- Silicides, Powder technology**
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Silicides, Reactions (chemical)**
Modeling of sequential reactions during micropolytropic synthesis. 961-972A
- Silicon, Alloying elements**
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A
The cracking mechanism of silicon particles in an A357 aluminum alloy. 3558-3568A
- Silicon, Binary systems**
Thermal decomposition of silicon carbides: discussion of "the effect of an electric field on self sustaining combustion synthesis, I and II", and author's reply. 322-325B
Effects of shear flow and anisotropic kinetics on the morphological stability of a binary alloy. 687-694A
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
- Silicon, Chemical analysis**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
- Silicon, Extraction**
Preparation of pure silicon by electrowinning in a bytownite-cryolite melt. 895-900B
- Silicon, Impurities**
Influence of chromium and impurities on the grain refining behavior of aluminum. 791-800A
- Silicon, Quaternary systems**
An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Silicon, Refining**
Thermodynamics of phosphorus in molten silicon. 937-941B
- Silicon carbide, Coatings**
Investigation of the temperature field developed by a spinning beam in laser processing. 4039-4047A
- Silicon carbide, Composite materials**
Effective elastic moduli of fiber-matrix interphases in high-temperature composites. 165-182A
Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation. 277-285B
Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A
The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
Liquid state infrared processing of SCS-6/Ti-6Al-4V composites. 527-532B
Solidification of particle-reinforced metal-matrix composites. 663-671B
The Bauschinger effect in a SiC/Al composite. 995-1001A
A one-phase model of the mixing of Al-SiC composite melt. 1015-1023B
Theoretical analysis of the particle gradient distribution in centrifugal field during solidification. 1025-1029B
Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. 1379-1394A
Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. 1403-1405A
An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites. 1709-1720A
Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1899-1907A
Growth behavior of microstructurally short cracks in the 6061 aluminum alloy with and without 22 vol.% SiC whiskers. 2013-2021A
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites. 2653-2662A
Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. 2837-2842A
Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-3 alloy composite. 2843-2851A
Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
Microstructural changes in a mechanically alloyed Al-6.2Zn-2.5Mg-1.7Cu alloy (7010) with and without particulate SiC reinforcement. 3718-3726A
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites. 3893-3901A
Infrared transient-liquid-phase joining of SCS-6/B21S titanium matrix composite. 4011-4018A
Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A

- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Silicon dioxide, Reactions (chemical)**
Activities in $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ slags and deoxidation equilibria of silicon and aluminum. 943-953B
- Silver, Binary systems**
Generalized enthalpy method for multicomponent phase change. 869-879B
- Silver, Diffusion**
Analysis of mean square penetration depth in grain boundary diffusion. 3473-3477A
- Silver, Extraction**
Electrochemical behavior of the dissolution of gold-silver alloys in cyanide solutions. 355-361B
- Silver, Recovering**
Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Silver base alloys, Brazing**
A model for coupled growth of reaction layers in reactive brazing of ZrO_2 -toughened Al_2O_3 . 3630-3638A
- Silver base alloys, Phase transformations**
Characterization of a massive transformation by microstructural analysis. 1511-1516A
- Silver base alloys, Phases (state of matter)**
Eutectoid decomposition in Ag-Ga. 1676-1682A
- Simulation**
Cold model study of the surface profile in a continuous slab casting mold: effect of second phase. 695-697B
Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization. 1031-1044B
Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
Measurement of friction under sheet forming conditions. 3971-3981A
- Sinterability, Alloying effects**
The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Sintered compacts, Physical properties**
The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Sintering (powder metallurgy)**
Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders. 203-211B
Comparative study of pore structure evolution during solvent and thermal debinding of powder injection molded parts. 245-253A
Theoretical modeling of densification during activated solid-state sintering. 441-450A
Microstructure and phase relations in a powder-processed Ti-22Al-12Nb alloy. 1121-1126A
- Slab casting**
Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 672-685B
Cold model study of the surface profile in a continuous slab casting mold: effect of second phase. 695-697B
Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B
- Slabs, Casting**
A water model study of the flow asymmetry inside a continuous slab casting mold. 757-764B
- Slag disposal**
Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
- Slags**
A multiphase fluid mechanics approach to gas holdup in bath smelting processes. 195-201B
Activities in $\text{MnO-SiO}_2\text{-Al}_2\text{O}_3$ slags and deoxidation equilibria of manganese and silicon. 263-270B
Controversy on the free energy of formation of CaO —additional evidence in support of thermochemical data. 647-651B
Cold model study of the surface profile in a continuous slab casting mold: effect of second phase. 695-697B
- Slags, Reactions (chemical)**
Chemical potentials of components of the system $\text{CaO-P}_2\text{O}_5\text{-Fe}_2\text{O}_3$ at 1673K. 595-603B
Reduction of FeO in smelting slags by solid carbon: experimental results. 717-730B
Activities in $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ slags and deoxidation equilibria of silicon and aluminum. 943-953B
- Slags, Solubility**
Solubility of carbon in $\text{CaO-Al}_2\text{O}_3$ melts. 57-64B
- Slags, Surface properties**
Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B
- Slaked lime, Environment**
Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Sliding friction**
High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
 Ni_3Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed. 3513-3523A
The wear behavior between hardfacing materials. 3639-3648A
- Slip**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature. 1739-1748A
- Slip, Composition effects**
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys. 490-493A
- Slip, Environmental effects**
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment. 471-476A
- Slip, Stress effects**
Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply. 819-821A
- Slip planes**
Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
- Smelting**
A multiphase fluid mechanics approach to gas holdup in bath smelting processes. 195-201B
Heat transfer and pressure drop considerations in the design of Siros melt lances. 221-230B
Influence of gold content on copper oxidation from silver-gold-copper alloys. 3187-3191A
- Snoek effect**
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Sodium, Binary systems**
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Sodium, Chemical analysis**
Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in silumin by scanning electron microscopy. 604-609B
Reference electrode of simple galvanic cells for developing sodium sensors for use in molten aluminum. 794-800B
- Sodium, Thermal properties**
The transported entropy of Na^+ in solid state cryolite. 788-793B
- Sodium chloride, Environment**
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach. 1313-1325A
- Sol gel process**
Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
Synthesis of nanocrystalline Ni_3Cu by sol-gel route. 4213-4216A
- Solar generators**
Thermodynamics of phosphorus in molten silicon. 937-941B
- Solid phases**
Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique. 318-322B
Effects of flow on morphological stability during directional solidification. 583-593A
Interface attachment kinetics in alloy solidification. 671-686A
An adaptive mesh refinement scheme for solidification problems. 707-717A
Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
Inverse melting in binary systems: morphology and microscopy of catalectic alloys. 979-986B
Characterization of a massive transformation by microstructural analysis. 1511-1516A
- Solid phases, Alloying effects**
Precipitation in lead-calcium alloys containing tin. 1668-1675A

Solid phases, Heating effects		
High-temperature nitridation of Ni-Cr alloys	59-89A	
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties.	111-118A	
Solid phases, Pressure effects		
Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions.	141-146B	
Solid phases, Temperature effects		
A study of the thermal decomposition of BaCO ₃ .	409-416B	
Overview of geometric effects on coarsening of mushy zones. The phase field method: simulation of alloy dendritic solidification during recalcification.	557-567A	
	657-669A	
Solid solubility		
The production of nickel-zinc alloys by powder injection. Solid-state contributions to densification during liquid-phase sintering.	780-787B	
Retrograde solubility in semiconductors.	901-909B	
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni ₃ Al.	2704-2707A	
	3569-3575A	
Solid solubility, Alloying effects		
Mechanical alloying of Nb-Al powders.	41-48A	
Solid solubility, Composition effects		
Microstructural changes in a mechanically alloyed Al-6.22Zn-2.5Mg-1.7Cu alloy (7010) with and without particulate SiC reinforcement.	3718-3726A	
Solid solutions, Mechanical properties		
Influence of interstitials on the mechanical properties of metallic materials.	3524-3529A	
Solid state		
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control.	2140-2150A	
Solidification		
Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation.	81-99B	
Scaling of intragranular dendritic microstructure in ingot solidification.	101-113B	
Transient thermal analysis of solidification in a centrifugal casting for composite materials containing particle segregation.	277-285B	
Effect of superheat on the solidification structures of AISI 310S austenitic stainless steel.	287-296B	
Porosity formation in Al-9 wt.% Si-3 wt.% Cu alloy systems: metallographic observations.	415-429A	
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. I. Solidification in the presence of crossed alternating electric fields and stationary magnetic fields.	445-455B	
Microstructure of Al ₂ O ₃ fiber-reinforced superalloy (Inconel 718) composites.	451-458A	
Effects of forced electromagnetic vibrations during the solidification of aluminum alloys. II. Solidification in the presence of colinear variable and stationary magnetic fields.	457-464B	
The effect of bulk flow concentration on diffusion coupling between dendrites.	477-480A	
Analysis and Modeling of Solidification.	509-824A	
Intermixing model of continuous casting during a grade transition.	617-632B	
Solidification of particle-reinforced metal-matrix composites. Radioscopic visualization of isothermal solidification of eutectic Ga-In alloy.	663-671B	
An adaptive mesh refinement scheme for solidification problems.	686-689B	
Inverse melting in binary systems: morphology and microscopy of catatctic alloys.	707-717A	
Modeling of the peritectic reaction and macro-segregation in casting of low carbon steel.	979-986B	
Theoretical analysis of the particle gradient distribution in centrifugal field during solidification.	999-1014B	
Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data.	1025-1029B	
Modeling of ferrite growth in nodular cast iron.	1045-1056B	
Modeling of microsegregation in macrosegregation computations.	2209-2220A	
	2314-2327A	
A model for macrosegregation and its application to Al-Cu castings.	2708-2721A	
Determination of the solidification curves of commercial aluminum alloys.	2722-2726A	
Orientation dependence of primary dendrite spacing. Equiaxed dendritic solidification with convection. I. Multiscale/multiphase modeling.	2727-2739A	
Equiaxed dendritic solidification with convection. II. Numerical simulations for an Al-4 wt.% Cu alloy.	2754-2764A	
Equiaxed dendritic solidification with convection. III. Comparisons with NH ₄ CH ₃ O experiments.	2765-2783A	
Solidification of an alloy 625 weld overlay.	2784-2795A	
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. I. Model development and discussion.	3612-3620A	
	4061-4074A	
Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting.	4075-4083A	
Modeling of primary and secondary dendrites in a Cu-6 wt.% tin alloy.	4085-4093A	
Solidification, Alloying effects		
The breakdown of single-crystal solidification in high refractory nickel-base alloys.	1081-1094A	
Solidification, Cooling effects		
Numerical modeling of cellular/dendritic array growth: spacing and structure predictions.	611-623A	
Solidification, Field effects		
On the reaction between Fe-Ti and Fe-C liquids under micro-gravity.	407-414A	
Solidification, Pressure effects		
The squeeze casting of hypoeutectic binary Al-Cu.	4121-4132A	
Solidification, Temperature effects		
Nucleation controlled solidification kinetics.	533-547A	
Overview of geometric effects on coarsening of mushy zones. Banded solidification microstructures.	557-567A	
The phase field method: simulation of alloy dendritic solidification during recalcification.	625-634A	
	657-669A	
Solidification point		
Solidification of an alloy 625 weld overlay.	3612-3620A	
Solubility, Alloying effects		
Solubility of carbon in CaO-Al ₂ O ₃ melts.	57-64B	
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron.	846-851B	
Solutes		
Modeling of microsegregation in macrosegregation computations.	2314-2327A	
Solution heat treatment		
Microstructural aspects of the dissolution and melting of Al ₂ Cu phase in Al-Si alloys during solution heat treatment.	1785-1798A	
The control of grain size and distribution of particles in a (6061 alloy) _m /(Al ₂ O ₃) _p composite by solutionizing treatment.	2023-2034A	
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control.	2140-2150A	
Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy.	3478-3490A	
Sour gas, Environment		
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel.	3601-3611A	
Spalling		
Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956.	3279-3291A	
	3809-3816A	
Specific heat		
Modeling of ingot distortions during direct chill casting of aluminum alloys.	3214-3225A	
Spheroidal structure, Deformation effects		
Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti ₃ Al lamellar alloy.	127-134A	
Spheroidal structure, Heating effects		
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties.	111-118A	
Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel.	1585-1594A	
Spheroidizing		
Bainitic microstructures formed by split isothermal transformation in an Fe-C-Si-Mn-Mo steel.	1141-1147A	
Spinodal decomposition, Stress effects		
Molecular dynamics simulation of martensitic transformations in NiAl.	1476-1488A	
Splitting		
Splitting phenomena occurring in the martensitic transformation of Cr13 and CrMoV14 stainless steels in the absence of carbide precipitation.	1799-1805A	
Squeeze casting		
Microstructure and fracture of SiC-particulate-reinforced cast A356 aluminum alloy composites.	3893-3901A	
The squeeze casting of hypoeutectic binary Al-Cu.	4121-4132A	
Stability		
The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy.	2916-2922A	
Stacking fault energy		
Reply: Dynamic materials model. Basis and principles.	235-236A	

Stacking faults

The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys. 1655-1667A

High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. II. Plate intersections, extended defects, and nucleation mechanisms. 3371-3380A

Stacking faults, Deformation effects

The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A

Stacking faults, Radiation effects

Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A

Stacking faults, Stress effects

Stacking faults in SiC particles and their effect on the fracture behavior of a 15 vol.% SiC/6061-Al matrix composite. 459-465A

Stainless steels, Casting

Intermixing model of continuous casting during a grade transition. 617-632B

Stainless steels, Forming

Reply: Dynamic materials model. Basis and principles. 235-236A

Stainless steels, Microstructure

Prediction of grain structures in various solidification processes. 695-705A

Statistical analysis

A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-408B

Steam turbines, Service life

Carbide diagrams and precipitation of alloying elements during aging of low-alloy steels. 498-502A

Steel making

Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams. 65-69B

Dispersed phase holdup in liquid-liquid emulsions generated by high strength bottom gas injection. 213-219B

Characteristics of eccentric bubble plumes in liquids. 231-239B

The use of blast furnace slag and derived materials in the vitrification of electric arc furnace dust. 379-384B

A study of the thermal decomposition of BaCO₃. 409-416B

Reoxidation of aluminum in Fe-Al-M (M=C, Mn, and Ti) melts with CaO-Al₂O₃-FeO (3 mass%) slags. 423-431B

Transient thermal model of the continuous single-wheel thin-strip casting process. 509-525B

Alternative technologies in iron and steelmaking. 541-553B

Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 765-772B

Activities in CaO-SiO₂-Al₂O₃ slags and deoxidation equilibria of silicon and aluminum. 943-953B

Steels, Casting

Transient thermal model of the continuous single-wheel thin-strip casting process. 509-525B

Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 672-685B

Mathematical modeling of tundish operation and flow control to reduce transition slabs. 745-756B

Steels, Coating

Discussion of "The effect of steel chemistry on the formation of Fe-Zn intermetallic compounds of galvanneal-coated steel sheets" and authors' reply. 146-148B

Microstructure of bonding zones in laser-clad nickel-alloy-based composite coatings reinforced with various ceramic powders. 391-400A

The production of nickel-zinc alloys by powder injection. 780-787B

Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A

Steels, Corrosion

Stress corrosion cracking of pressure vessel steels in high-temperature caustic aluminate solutions. 1327-1331A

Steels, Diffusion

Annealing and aging of interstitial C in α -Fe, as measured by internal friction. 2461-2469A

Steels, Heat treatment

Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A

Steels, Irradiation

Theory of nucleation with cluster loss and injection: application to plastic deformation and irradiation. 1441-1448A

Steels, Mechanical properties

Detecting stable crack onset at ductile-brittle transition in steels. 469-471A

Steels, Melting

Studies of interface deformations in single- and multi-layered liquid baths due to an impinging gas jet. 911-920B

Steels, Phase transformations

On the reaction between Fe-Ti and Fe-C liquids under microgravity. 407-414A

Bainitic microstructures formed by split isothermal transformation in an Fe-C-Si-Mn-Mo steel. 1141-1147A

Steels, Quality control

Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B

Steels, Refining

Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. Use of solid-electrolyte galvanic cells to determine the activity of CaO in the CaO-ZrO₂ system and the standard Gibbs free energies of formation of CaZrO₃ from CaO and ZrO₂. 652-657B

Model study of bubble and liquid-flow characteristics in a bottom blown bath under reduced pressure. 658-662B

765-772B

Steels, Steel making

Water model experiment on the liquid flow behavior in a bottom blown bath with top layer. 35-41B

Steels, Surface finishing

Influence of plastic deformation upon the half-width of engineering metallic materials in hard state. 3662-3668A

Stiffness

Microstructure and properties of Al₂O₃-Al(Si) and Al₂O₃-Al(Si)-Si composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A

The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A

Stiffness, High temperature effects

Effective elastic moduli of fiber-matrix interphases in high-temperature composites. 165-182A

Stirring

A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. 704-708B

Stoichiometry

Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A

Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control. 2140-2150A

Strain

Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A

Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A

The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-960A

The Bauschinger effect in a SiC/Al composite. 995-1001A

Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A

The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A

Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voce equation. 3340-3343A

Strain, Cooling effects

NiTi and NiTi-TiC composites. III. Shape-memory recovery. 193-203A

Strain, Environmental effects

On the transition of fatigue crack growth from stage I to stage II in a corrosive environment. 471-476A

Strain, Heating effects

Heterogeneous nucleation of δ on dislocations in a dilute aluminum-lithium alloy. 1595-1605A

Strain, Stress effects

Computer simulation of reversible martensitic transformations. A study on coherency strain and precipitate morphology via a discrete atom method. 1187-1201A

Effect of uniaxial stress on coarsening of precipitate clusters. 1449-1459A

1460-1475A

Strain aging

Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A

Dynamic strain aging and hydrogen-induced softening in alpha titanium. 1877-1887A

The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A

Strain aging, Microstructural effects

Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A

Strain aging, Temperature effects

Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A

- Strain hardenability**
Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Strain hardening**
NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Strain hardening, Alloying effects**
Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. 1869-1876A
Dynamic strain aging and hydrogen-induced softening in alpha titanium. 1877-1887A
- Strain hardening, Deformation effects**
Non-Schmid effects on the behavior of polycrystals, with applications to Ni₃Al. 81-99A
The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
- Strain hardening, Microstructural effects**
Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites. 3739-3746A
- Strain hardening, Temperature effects**
Enhanced ductility in coarse-grained Al-Mg alloys. 343-352A
Manifestations of dynamic strain aging in soft-oriented NIAI single crystals. 3542-3557A
- Strain rate**
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature. 1739-1748A
Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1861-1867A
Deformation behavior of an Al-3.37 wt.% Li alloy. 2274-2284A
Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. 3066-3073A
Failure characteristics of 6061/Al₂O₃/15_p and 2014/Al₂O₃/15_p composites as a function of loading rate. 3095-3107A
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A
An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V. 3957-3962A
Microstructural features of friction welded MA 956 superalloy material. 4019-4029A
Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 4095-4111A
- Strain rate, Alloying effects**
Effect of strain rate and temperature on the flow stress of β -phase titanium-hydrogen alloys. 1303-1312A
Dynamic strain aging and hydrogen-induced softening in alpha titanium. 1877-1887A
- Strain rate, Corrosion effects**
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Strain rate, Deformation effects**
Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A
Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel. 1251-1266A
Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1686A
- Strain rate, High temperature effects**
High-temperature deformation properties of NIAI single crystals. 1229-1240A
- Strain rate, Impurity effects**
The effect of hydrogen on the fracture of alloy X-750. 101-110A
- Strain rate, Microstructural effects**
Effect of iron on ductility and cavitation in the superplastic Al-22% Al eutectoid. 863-872A
The inter-relationship between grain boundary sliding and cavitation during creep of polycrystalline copper. 901-907A
Creep deformation of dispersion-strengthened copper. 1217-1227A
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Strain rate, Temperature effects**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Enhanced ductility in coarse-grained Al-Mg alloys. 343-352A
Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
- Manifestations of dynamic strain aging in soft-oriented NIAI single crystals. 3542-3557A
- Strain softening**
Dynamic strain aging and hydrogen-induced softening in alpha titanium. 1877-1887A
- Strain softening, Alloying effects**
Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. 1869-1876A
- Stress analysis**
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
Analysis of thermal residual stress in a thick-walled ring of Duralcan-base Al-SiC functionally graded material. 4145-4151A
- Stress concentration**
Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
The effect of volume percent and morphology of phases on the damping behavior of epoxy-aluminum composites. 2366-2373A
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Stress concentration, Stress effects**
Evidence of fracture surface interference for cracks loaded in shear detected by phase-shifted speckle interferometry. 3853-3860A
- Stress corrosion cracking**
Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply. 819-821A
Initiation of stress corrosion cracking for pipeline steels in a carbonate-bicarbonate solution. 2686-2691A
- Stress corrosion cracking, Environmental effects**
Studies on the influence of metallurgical variables on the stress corrosion behavior of AISI 304 stainless steel in sodium chloride solution using the fracture mechanics approach. 1313-1325A
Stress corrosion cracking of pressure vessel steels in high-temperature caustic aluminate solutions. 1327-1331A
Microstructural aspects of sulfide stress cracking in an API X-80 pipeline steel. 3601-3611A
- Stress corrosion cracking, Heating effects**
A strain-based fracture model for stress corrosion cracking of low-alloy steels. 291-304A
Atmospheric stress corrosion cracking of a superplastic 7475 aluminum alloy. 2617-2627A
Influence of thermal aging on the intergranular corrosion resistance of types 304LN and 316LN stainless steels. 2881-2887A
- Stress corrosion cracking, Microstructural effects**
The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. 281-290A
Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
- Stress cycle**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
- Stress intensity**
Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₆Al lamellar alloy. 127-134A
Effect of a solid solution on the steady-state creep behavior of an aluminum matrix composite. 305-316A
Rafting in superalloys. 513-530A
Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
Time-dependent, environmentally assisted crack growth in Nicalon-fiber-reinforced SiC composites at elevated temperatures. 839-849A
Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A
Analysis on the amplitude of serrated flow associated with the Portevin-LeChatelier effect of substitutional fcc alloys. 1683-1686A
- Stress relaxation**
Influence of interstitials on the mechanical properties of metallic materials. 3524-3529A
- Stress strain curves**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₁₂ phase field. 71-79A

- Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A
- NTI and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
- Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
- Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
- Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
- Plastic anisotropy of sheets with continuously varying anisotropic parameters and flow stress. 317-326A
- Reinforcement stresses during deformation of sphere- and particulate-reinforced aluminum-matrix composites. 486-490A
- The characteristics of cavitation in superplastic metals and ceramics. 873-878A
- Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet. 1889-1898A
- Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
- Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
- High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
- The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
- Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe₃Al. 2985-2993A
- Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
- Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. 3066-3073A
- Simulation of the hot-tension test under cavitating conditions. 3112-3119A
- Elevated temperature compressive properties of N-doped NiAl. 3170-3180A
- Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
- The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet. 3250-3258A
- Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voce equation. 3340-3343A
- Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy. 3478-3490A
- Plastic zones and fatigue-crack closure under plane-strain double slip. 3491-3502A
- Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. 3542-3557A
- High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- Plastic zone and pileup around large indentations. 3793-3800A
- Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Notch fracture in γ -titanium aluminides. 3903-3912A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A
- Stress strain curves, Alloying effects**
- Elevated temperature compressive properties of zirconium-modified NiAl. 2628-2641A
- Stress strain curves, Microstructural effects**
- Theoretical calculation of the stress-strain behavior of dual-phase metals with randomly oriented spheroidal inclusions. 2359-2365A
- Stresses**
- Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1899-1907A
- Strip casting**
- Transient thermal model of the continuous single-wheel thin-strip casting process. 509-525B
- Strip steel, Metal working**
- Analysis and prevention of vertical cracking phenomena during deep drawing of hot-rolled SG295 steel strips. 1241-1250A
- Strontium, Alloying elements**
- Electron microscope study of Al-Fe-Si intermetallics in 6201 aluminum alloy. 929-936A
- Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy. 1293-1302A
- Submerged arc welding**
- Dilution in single pass arc welds. 481-489B
- Sulfation**
- Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 465-474B
- Sulfides, Crystal growth**
- Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Sulfides, Reduction (chemical)**
- Phase equilibria in the metal-sulfur-oxygen system and selective reduction of metal oxides and sulfides. I. The carbothermic reduction and calcination of complex mineral sulfides. 827-838B
- Sulfur, Binary systems**
- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Sulfur, Physical properties**
- Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
- Sulfur, Ternary systems**
- Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
- Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Sulfuric acid leaching**
- A study of solid-aqueous equilibria by the speciation approach in the hydronium alunite-sulfuric acid-water system at high temperatures. 555-566B
- Sulfurization**
- Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
- Superalloys**
- Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- Superalloys, Casting**
- Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
- Superalloys, Claddings**
- Solidification of an alloy 625 weld overlay. 3612-3620A
- The wear behavior between hardfacing materials. 3639-3648A
- Superalloys, Coating**
- Isothermal fatigue of an aluminide-coated single-crystal superalloy. I. 353-361A
- Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Superalloys, Composite materials**
- Microstructure of Al₂O₃ fiber-reinforced superalloy (Inconel 718) composites. 451-458A
- Effect of primary grain size on the secondary recrystallization of mechanically alloyed oxide dispersion strengthened nickel-based superalloy. 493-496A
- Kinetics of cyclic oxidation and cracking and finite element analysis of MA956 and sapphire/MA956 composite system. 3279-3291A
- Superalloys, Corrosion**
- Structure, chemistry, and stress corrosion cracking of grain boundaries in alloys 600 and 690. 327-341A
- Superalloys, Crystal growth**
- Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. I. Model development and discussion. 4061-4074A
- Macrotransport-solidification kinetics modeling of equiaxed dendritic growth. II. Computation problems and validation on Inconel 718 superalloy casting. 4075-4083A
- Superalloys, Forming**
- Reply: Dynamic materials model. Basis and principles. 235-236A
- Superalloys, Heat treatment**
- Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718. 785-790A
- Superalloys, Joining**
- Transient liquid-phase bonding in the NiAl/Cu/Ni system—a microstructural investigation. 3621-3629A
- Superalloys, Mechanical properties**
- The effect of hydrogen on the fracture of alloy X-750. 101-110A
- Rafting in superalloys. 513-530A
- Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
- Creep deformation and crack growth behavior of a single-crystal nickel-base superalloy. 829-837A
- Mechanisms of high-temperature fatigue failure in alloy 800H. 851-861A
- On the influence of grain morphology on creep deformation and damage mechanisms in directionally solidified and oxide dispersion strengthened superalloys. 879-890A
- High-temperature measurements of lattice parameters and internal stresses of a creep-deformed monocrystalline nickel-base superalloy. 1003-1014A
- Temperature dependence of the intrinsic small fatigue crack growth behavior in nickel-base superalloys based on measurement of crack closure. 1021-1031A
- Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A

Superalloys, Metal working		
Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel.	1251-1266A	
Superalloys, Microstructure		
Prediction of grain structures in various solidification processes.	695-705A	
Characterization of constitutional liquid film migration in nickel-base alloy 718.	2692-2703A	
Superalloys, Phases (state of matter)		
The breakdown of single-crystal solidification in high refractory nickel-base alloys.	1081-1094A	
Superalloys, Powder technology		
The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material.	145-153A	
Superalloys, Structural hardening		
A study on coherency strain and precipitate morphology via a discrete atom method.	1449-1459A	
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature.	1739-1745A	
Preferential coarsening of γ' precipitates in Inconel 718 during creep.	3391-3398A	
Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach.	3861-3870A	
Superalloys, Welding		
Microstructural features of friction welded MA 956 superalloy material.	4019-4029A	
Superconductors		
A thermodynamic evaluation of the Ti-Mo-C system.	955-968B	
Supercooling		
The role of grain corners in nucleation.	480-483A	
High-speed imaging and analysis of the solidification of undercooled nickel melts.	863-868B	
Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution.	3226-3240A	
Microstructure of Cu-Co alloys solidified at various supercoolings.	4049-4059A	
Superlattices		
Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti).	2045-2046A	
Superplastic forming		
Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys.	2947-2957A	
Microstructural evolution and superplastic deformation behavior of fine grain 5083Al.	3827-3839A	
Superplasticity		
Characterization of superplastic deformation behavior of a fine grain 5083 Al alloy sheet.	1889-1898A	
Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends.	2130-2139A	
An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy.	2252-2262A	
A model study of cavity growth in superplasticity using single premachined holes.	2532-2539A	
Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions.	2837-2842A	
Control of superplastic deformation rate during uniaxial tensile tests.	3030-3042A	
The behavior of internal markers in Ti-6Al-4V deformed in superplastic tension.	3747-3748A	
Superplasticity, Deformation effects		
Micronecking and fracture in cavitated superplastic materials.	1043-1046A	
Superplasticity, Heating effects		
Low quench sensitivity of superplastic 8090 Al-Li thin sheets.	2923-2933A	
Superplasticity, Mechanical properties		
The characteristics of cavitation in superplastic metals and ceramics.	873-878A	
Superplasticity, Microstructural effects		
Effect of iron on ductility and cavitation in the superplastic Al-22% Al eutectoid.	863-872A	
On microsuperplasticity in AA7475 domes.	1400-1403A	
Microstructural evolution and superplastic deformation behavior of fine grain 5083Al.	3827-3839A	
Superplasticity, Stress effects		
Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals.	269-279A	
Supersaturation		
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying.	2934-2946A	
Surface chemistry		
Studies on the corrosion and the behavior of inert anodes in aluminum electrolysis.	185-193B	
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity.	371-379A	
Fundamental studies of copper anode passivation during electrorefining. II. Surface morphology.	610-616B	
Surface chemistry, Temperature effects		
Variation of contact angles with temperature and time in the Al-Al ₂ O ₃ system.	51-55B	
Surface hardening		
Quenching C60 fullerene into diamond in the Fe-C alloy system by laser treatment.	2293-2296A	
Surface hardness, Deformation effects		
Influence of plastic deformation upon the half-width of engineering metallic materials in hard state.	3662-3668A	
Surface hardness, Radiation effects		
Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge.	401-405A	
Surface layer		
Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds.	672-685B	
Control of iron nitride layers growth kinetics in the binary Fe-N system.	1823-1835A	
Surface structure		
Physical chemistry of the powder metallurgy of beryllium: chemical characterization of the powder in relation to its granularity.	371-379A	
Bridge toughening enhancement in double-notched MoSi ₂ /Nb model composites.	909-921A	
Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing.	1379-1394A	
On microsuperplasticity in AA7475 domes.	1400-1403A	
Formation of bainite in ferrous and nonferrous alloys through sympathetic nucleation and ledge-wise growth mechanism.	1533-1543A	
A high resolution transmission electron microscopy study of interfaces between the γ , B2, and α_2 phases in a Ti-Al-Mo alloy.	1618-1629A	
Surface structure, Alloying effects		
Effects of nickel on the sintering behavior of Fe-Ni compacts made from composite and elemental powders.	203-211B	
Surface structure, Deformation effects		
Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation.	2338-2346A	
Surface structure, Environmental effects		
On the transition of fatigue crack growth from stage I to stage II in a corrosive environment.	471-476A	
Surface structure, Heating effects		
Surface morphology and compound layer pores of plasma nitrocarburized low carbon steel.	135-143A	
Transition between internal and external nitridation of Ni-Ti alloys.	1606-1617A	
Surface structure, Temperature effects		
Overview of geometric effects on coarsening of mushy zones.	557-567A	
Surface temperature		
Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. I. Development of the inverse heat-transfer model.	119-127B	
Surface tension, Alloying effects		
Influence of phosphorus addition on the surface tension of liquid iron and segregation of phosphorus on the surface of Fe-P alloy.	71-79B	
Surface tension, Pressure effects		
The influence of oxygen pressure and P ₂ O ₅ on the surface tension of liquid iron oxide at 1435°C.	139-141B	
Surface tension, Temperature effects		
Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts.	241-253B	
Surgical implants, Materials selection		
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery.	3925-3935A	
Synthesis		
Symposium on In Situ Reactions for Synthesis of Composites, Ceramics, and Intermetallics. II.		
Modeling of sequential reactions during microalloyed synthesis.	961-972A	
Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates.	2100-2104A	
Tantalum, Alloying elements		
The breakdown of single-crystal solidification in high refractory nickel-base alloys.	1081-1094A	

- Tantalum, Crystal growth**
Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
- Tantalum, Heat treatment**
Improved oxidation resistance of group VB refractory metals by Al³⁺ ion implantation. 491-500B
- Tantalum, Structural hardening**
Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Tantalum base alloys, Powder technology**
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃₃Ta₆₇ alloy powders. 3267-3278A
- Tantalum base alloys, Structural hardening**
Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Tellurium, Alloying additive**
Effects of oxygen, selenium, and tellurium on the rate of nitrogen dissolution in molten iron. 846-851B
- Tellurium, Dopants**
Hydrogen effects on directional solidification of tellurium-doped cast irons. 496-498A
- Temperature**
Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
Mathematical modeling of the extrusion of 6061/Al₂O₃/20p composite. 4095-4111A
- Temperature distribution**
Flow and thermal behavior of the top surface flux/powder layers in continuous casting molds. 672-685B
- Tempering**
A strain-based fracture model for stress corrosion cracking of low-alloy steels. 291-304A
Mössbauer spectroscopy study of the aging and tempering of high nitrogen quenched Fe-N alloys: kinetics of formation of Fe₃N₂ nitride by interstitial ordering in martensite. 2160-2177A
Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels. 2510-2517A
Atmospheric stress corrosion cracking of a superplastic 7475 aluminum alloy. 2617-2627A
M₂₃C₆ precipitates in isothermal tempering of high Co-Ni secondary hardening steel. 3466-3472A
- Tensile properties, Heating effects**
The dependence of complex alloyed steel properties on quenching and tempering conditions. 2852-2858A
- Tensile properties, Microstructural effects**
Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
A comparison of fracture behavior of low alloy steel with different sizes of carbide particles. 1909-1917A
- Tensile strength**
Thermal stability of SiC-SCS-6 fiber-reinforced IMI834 alloys. Characterization and mechanical properties of ultrahigh boron steels produced by powder metallurgy. 1403-1405A
1861-1867A
Tensile ductility and fracture of superplastic aluminum-SiC composites under thermal cycling conditions. 2837-2842A
Microstructure and tensile properties of compacted, mechanically alloyed, nanocrystalline Fe-Al. 3126-3134A
Analysis of the stress-strain curves of a modified 9Cr-1Mo steel by the Voce equation. 3340-3343A
The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Tensile strength, Alloying effects**
Effect of strontium modification on near-threshold fatigue crack growth in an Al-Si-Cu die cast alloy. 1293-1302A
Tension characteristics of notched specimens for Al-Li-Cu-Zr alloys sheets with various cerium contents. 3089-3094A
- Tensile strength, Cooling effects**
The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy. 3983-3991A
- Tensile strength, Corrosion effects**
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956. 3809-3816A
- Tensile strength, Heating effects**
Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si. 1700-1708A
Microstructural basis for the effect of chromium on the strength and toughness of AF1410-based high performance steels. 2510-2517A
Low quench sensitivity of superplastic 8090 Al-Li thin sheets. 2923-2933A
- Tensile strength, Impurity effects**
Microsegregation of oxygen in Zr-2.5Nb alloy materials. 431-440A
- Tensile strength, Microstructural effects**
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties. 111-118A
- The embrittlement and de-embrittlement of grain boundaries in an Fe-Mn-Ni alloy due to grain boundary segregation of manganese. 1015-1020A
- Tensile properties of mechanically alloyed/milled ODS-Ni-based alloys. 1371-1377A
- Effect of bainite transformation and retained austenite on mechanical properties of austempered spheroidal graphite cast steel. 1585-1594A
- Microstructural aspects of the dissolution and melting of Al₂Cu phase in Al-Si alloys during solution heat treatment. 1785-1798A
- Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- Tensile strength, Pressure effects**
Synthesis of RuAl by reactive powder processing. 3688-3699A
- Tensile strength, Stress effects**
Temperature and strain-rate effects on low-cycle fatigue behavior of alloy 800H. 255-267A
Rafining in superalloys. 513-530A
Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
Effect of uniaxial stress on coarsening of precipitate clusters. 1460-1475A
- Tensile strength, Temperature effects**
Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-469A
- Tensile stress**
Subcritical crack growth at bimaterial interfaces. I. Flexural peel technique. 205-211A
Subcritical crack growth at bimaterial interfaces. III. Shear-enhanced fatigue crack growth resistance at polymer/metal interface. 221-228A
Mechanisms of high-temperature fatigue failure in alloy 800H. The Bauschinger effect in a SiC/Al composite. 851-861A
995-1001A
- Tension tests**
Control of superplastic deformation rate during uniaxial tensile tests. 3030-3042A
Simulation of the hot-tension test under cavitating conditions. 3112-3119A
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AlSi 4130 steel. 3162-3169A
The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet. 3250-3258A
An evaluation of the creep properties of two Al-Si alloys produced by rapid solidification processing. 3871-3879A
- Tension tests, Development**
Measurement of friction under sheet forming conditions. 3971-3981A
- Ternary systems**
Discussion of "derivation and consistency of the partial functions of the ternary system involving interaction coefficients" and author's reply. 325-327B
- Ternary systems, Diffusion**
Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
- Ternary systems, Mechanical properties**
Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L₁₂ phase field. 71-79A
Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
- Ternary systems, Phases (state of matter)**
Evolution of microstructures in the nickel modified titanium tri-aluminides near the L₁₂ phase field. 5-17A
M₂₃C₆ carbide equilibria in the Fe-Cr-C system. 701-704B
Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
Thermodynamic investigations of the ternary Au-Sn-Zn system. 921-927B
A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
Experimental study of the phase equilibria in the Fe-Mn-Al system. 2429-2435A
Thermodynamic activities and phase boundaries for the alloys of the Ni₃Al-Ni₃Ti pseudobinary section in the Ni-Al-Ti system. 2873-2877A
Internal sulfide precipitation in low Cr-Fe alloys. 3192-3202A
Solidification of undercooled Fe-Cr-Ni alloys. II. Microstructural evolution. 3226-3240A
Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni₃Al. 3569-3575A
Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Ternary systems, Reactions (chemical)**
Chemical potentials of components of the system CaO-P₂O₅-Fe₂O₃ at 1673K. 595-603B
- Ternary systems, Surface properties**
Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
- Texture**
Modeling texture change during the static recrystallization of interstitial free steels. 155-164A

- Recrystallization in oxide-dispersion strengthened mechanically alloyed sheet steel. 1963-1978A
- The role of coincident site lattice boundaries during selective growth in interstitial-free steels. 2178-2186A
- An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy. 2252-2262A
- Orientation selective recrystallization of nonoriented electrical steels. 2347-2358A
- Nanoscale brass/steel multilayer composites produced by cold rolling. 2383-2385A
- Texture, Deformation effects**
- Experimental investigation of the transformation texture in hot-rolled ferritic stainless steel using single orientation determination. 49-57A
- Non-Schmid effects on the behavior of polycrystals, with applications to Ni_3Al . 81-99A
- Aspects of dynamic recrystallization in shaped charge and explosively formed projectile devices. 1773-1778A
- Texture, Stress effects**
- Plastic anisotropy of sheets with continuously varying anisotropic parameters and flow stress. 317-326A
- Crystallographic preferred orientation induced by cyclic rolling contact loading. 3445-3465A
- Thermal conductivity**
- Solidification of particle-reinforced metal-matrix composites. 663-671B
- Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- Thermal conductivity, Temperature effects**
- Heat-flow-based analysis of surface crack formation during the start-up of the direct chill casting process. II. Experimental study of an AA5182 rolling ingot. 129-137B
- Thermal cycling**
- The effect of thermal cycle on the microstructural development of a powder metallurgy superalloy braze material. 145-153A
- Thermal expansion**
- Microstructure and properties of $\text{Al}_2\text{O}_3\text{-Al}(\text{Si})$ and $\text{Al}_2\text{O}_3\text{-Al}(\text{Si})\text{-Si}$ composites formed by in situ reaction of aluminum with aluminosilicate ceramics. 2122-2129A
- The balance of mechanical and environmental properties of a multielement niobium-niobium silicide-based in situ composite. 3801-3808A
- Thermal expansion, Microstructural effects**
- Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Thermal fatigue, Temperature effects**
- Isothermal fatigue of an aluminide-coated single-crystal superalloy. II. Effects of brittle precracking. 363-369A
- Thermal stability**
- Thermal stability of SiC-SCS-6 fiber-reinforced IM834 alloys. 1403-1405A
- Thermal stability, Cooling effects**
- Rapid solidification processing of a Mg-Li-Si-Ag alloy. 1363-1370A
- Thermal stresses**
- Effect of carbide precipitation on the creep behavior of alloy 800HT in the temperature range 700-900°C. 747-756A
- Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. 757-761A
- Thermal residual stresses in functionally graded and layered 6061 Al/SiC materials. 3241-3249A
- Thermit brazing**
- A model for coupled growth of reaction layers in reactive brazing of ZrO_2 -toughened Al_2O_3 . 3630-3638A
- Thermochemistry**
- Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
- Thermocouples**
- Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B
- Thermodynamics**
- Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions. 141-146B
- Applicability of Butler's equation in interpreting the thermodynamic behavior of surfaces and adsorption in Fe-S-O melts. 241-253B
- Discussion of "derivation and consistency of the partial functions of the ternary system involving interaction coefficients" and author's reply. 325-327B
- Kinetics of sulfation of chalcopyrite with steam and oxygen in the presence of ferric oxide. 485-474B
- Overview of geometric effects on coarsening of mushy zones. 557-567A
- Thermodynamics of sulfur in the BaO-MnO-SiO₂ flux system. 652-657B
- Discussion of "Representation of mixed reactive gases on free energy (Ellingham-Richardson) diagrams" and reply. 693-694B
- Thermodynamic investigations of the ternary Au-Sn-Zn system. 921-927B
- Thermodynamics of phosphorus in molten silicon. 937-941B
- Activities in $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ slags and deoxidation equilibria of silicon and aluminum. 943-953B
- A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
- Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B
- Thermodynamic properties of complex oxides in the Sm-Ba-Cu-O system. 973-978B
- Thermodynamics and long-range order of nitrogen in $\gamma\text{-Fe}_3\text{N}_4$. 1055-1061A
- Crystal shapes and phase equilibria: a common mathematical basis. 1431-1440A
- Thermodynamic and kinetic study of diffusion paths in the system Cu-Fe-Ni. 2229-2238A
- Thermodynamic studies and the phase diagram of the Li-Mg system. 2419-2428A
- Thermodynamic activities and phase boundaries for the alloys of the $\text{Ni}_3\text{Al-Ni}_3\text{Ti}$ pseudobinary section in the Ni-Al-Ti system. 2673-2677A
- An experimental study and thermodynamic calculations of phase equilibria in the Fe-Mo-C-N system. 2869-2880A
- A thermodynamic evaluation of the nickel-silicon system. 2897-2903A
- Kinetics of phase evolution of Zn-Fe intermetallics. 2904-2910A
- Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying. 2934-2946A
- An isothermal section at 550°C in the Al-rich corner of the Al-Fe-Mn-Si system. 3357-3361A
- Thermodynamic activities and partial enthalpies of mixing in the solid solution of Fe in Ni_3Al . 3569-3575A
- Thermochemistry of the Ni-Hf system—intermetallic phases. 3576-3590A
- Thermodynamic assessment of the Nb-N system. 3591-3600A
- Thermoelectric properties**
- Modeling of ingot distortions during direct chill casting of aluminum alloys. 3214-3225A
- Thermoelectric properties, Cooling effects**
- Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation. 81-99B
- Thermoelectric properties, Temperature effects**
- Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. 467-469A
- Thermogravimetric analysis**
- A study of the thermal decomposition of BaCO_3 . 409-416B
- High-temperature oxidation of Ti_3Al -based titanium aluminides in oxygen. 3993-4002A
- Effect of nitrogen on the oxidation behavior of Ti_3Al -based intermetallic alloys. 4003-4010A
- Thermomechanical treatment**
- The influence of niobium supersaturation in austenite on the static recrystallization behavior of low carbon microalloyed steels. 951-960A
- An investigation by interactive electron backscatter pattern analysis of processing and superplasticity in an aluminum-magnesium alloy. 2252-2262A
- Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. 2947-2957A
- Effect of thermomechanical treatments on the room-temperature mechanical behavior of iron aluminide Fe_3Al . 2985-2993A
- Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Thickness**
- Analysis of shell thickness irregularity in continuously cast middle carbon steel slabs using mold thermocouple data. 1045-1056B
- Thin films**
- Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A
- Thin films, Microstructure**
- Morphological instabilities of lamellar eutectics. 635-656A
- Microstructural stability on aging of an $\alpha+\beta$ titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
- Tin, Alloying elements**
- Precipitation in lead-calcium alloys containing tin. 1668-1675A
- Tin, Binary systems**
- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Tin, Ternary systems**
- Thermodynamic investigations of the ternary Au-Sn-Zn system. 921-927B
- Tin base alloys, Phases (state of matter)**
- Overview of geometric effects on coarsening of mushy zones. 557-567A
- Titanium, Alloying additive**
- The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites. 3007-3018A

Titanium, Alloying elements

- Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A

Titanium, Binary systems

- Critical evaluation and optimization of the thermodynamic properties of liquid tin solutions. 808-826B
- Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A

Titanium, Chemical analysis

- Formation of aluminum-silicon alloys from feldspars—determination of silicon, light, and heavy elements in aluminum by scanning electron microscopy. 604-609B

Titanium, Coatings

- Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B

Titanium, Composite materials

- Communication: On the in situ formation of TiC and Ti₃C reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A
- Interface characterization of ceramic fiber-reinforced titanium alloy composites manufactured by infrared processing. 1379-1394A

Titanium, Crystal growth

- An analysis of static recrystallization during continuous, rapid heat treatment. 2051-2053A

Titanium, Diffusion

- Pressure dependence of anomalous diffusion of zirconium in β -titanium. 1807-1814A

Titanium, Extraction

- Preoxidation and hydrogen reduction of ilmenite in a fluidized bed reactor. 731-738B

Titanium, Mechanical properties

- Temperature dependence of the rate sensitivity and its effect on the activation energy for high-temperature flow. 3346-3348A
- Plastic zone and pileup around large indentations. 3793-3800A

Titanium, Phases (state of matter)

- Stable and metastable ordered phases in microcrystalline alloys Ni (Fe, Mn, Ti). 2045-2046A

Titanium, Reactions (chemical)

- Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B

Titanium, Ternary systems

- Evolution of microstructures in the nickel modified titanium tri-aluminides near the L1₂ phase field. 5-17A
- Mechanical behavior of the in situ composite alloys in the Al-Ni-Ti system near the L1₂ phase field. 71-79A
- A thermodynamic evaluation of the Ti-Mo-C system. 955-966B
- Thermodynamic activities and phase boundaries for the alloys of the Ni₂Al-Ni₃Ti pseudobinary section in the Ni-Al-Ti system. 2673-2677A

Titanium, Welding

- Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation. 775-783A

Titanium base alloys

- Effect of nitrogen on the oxidation behavior of Ti₃Al-based intermetallic alloys. 4003-4010A

Titanium base alloys, Chemical analysis

- Determination of hydrogen in titanium alloys by cold neutron prompt gamma activation analysis. 3682-3687A

Titanium base alloys, Composite materials

- Liquid state infrared processing of SCS-6/Ti-6Al-4V composites. 527-532B
- Thermal stability of SiC-SCS-6 fiber-reinforced IM834 alloys. 1403-1405A
- An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites. 1709-1720A
- Multiple matrix cracking in a fiber-reinforced titanium matrix composite under high-cycle fatigue. 1899-1907A
- Interface effects on the micromechanical response of a transversely loaded single fiber SCS-6/Ti-6Al-4V composite. 2035-2043A
- Observation of short fatigue crack-growth process in SiC-fiber-reinforced Ti-15-S alloy composite. 2843-2851A
- Prediction of creep-rupture life of unidirectional titanium matrix composites subjected to transverse loading. 3074-3080A
- Infrared transient-liquid-phase joining of SCS-6/p21S titanium matrix composite. 4011-4018A
- Creep deformation and damage in a continuous fiber-reinforced Ti-6Al-4V composite. 4193-4204A

Titanium base alloys, Forming

- Reply: Dynamic materials model. Basis and principles. 235-236A

Titanium base alloys, Heat treatment

- Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si. 1700-1708A

Titanium base alloys, Mechanical properties

- Effect of strain rate and temperature on the flow stress of β -phase titanium-hydrogen alloys. 1303-1312A
- High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
- The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
- High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- The behavior of internal markers in Ti-6Al-4V deformed in superplastic tension. 3747-3748A
- Plastic zone and pileup around large indentations. 3793-3800A
- Notch fracture in γ -titanium aluminides. 3903-3912A
- Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery. 3925-3935A
- An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V. 3957-3962A
- Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A

Titanium base alloys, Microstructure

- Microstructural stability on aging of an $\alpha+\beta$ titanium alloy: Ti-6Al-1.6Zr-3.3Mo-0.30Si. 1167-1173A
- Crystallography of grain boundary α precipitates in a β titanium alloy. 1630-1641A
- The mechanism of formation of a fine duplex microstructure in Ti-48Al-2Mn-2Nb alloys. 1655-1667A
- Microstructural development of a gas-atomized and hot-pressed super- α_2 alloy. 2221-2228A

Titanium base alloys, Oxidation

- High-temperature oxidation of Ti₃Al-based titanium aluminides in oxygen. 3993-4002A

Titanium base alloys, Phase transformations

- A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A
- Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. 3066-3073A

Titanium base alloys, Powder technology

- Microstructure and phase relations in a powder-processed Ti-22Al-12Nb alloy. 1121-1126A

Titanium base alloys, Reactions (chemical)

- Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B

Titanium base alloys, Structural hardening

- Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys. 1869-1876A
- Dynamic strain aging and hydrogen-induced softening in alpha titanium. 1877-1887A

Titanium base alloys, Surface finishing

- Investigation of the temperature field developed by a spinning beam in laser processing. 4039-4047A

Titanium carbide, Composite materials

- NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
- NiTi and NiTi-TiC composites. III. Shape-memory recovery. 193-203A
- Communication: On the in situ formation of TiC and Ti₃C reinforcements in combustion-assisted synthesis of titanium matrix composites. 237-240A
- Analysis of damping in particle-reinforced superplastic zinc composites. 2565-2573A
- NiTi and NiTi-TiC composites. IV. Neutron diffraction study of twinning and shape-memory recovery. 2820-2836A
- Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites. 4171-4181A
- Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites. 4183-4191A

Titanium compounds, Alloying elements

- Notch fracture in γ -titanium aluminides. 3903-3912A

Titanium compounds, Coating

- The deposition of aluminide and silicide castings on γ -TiAl using the halide-activated pack cementation method. 3761-3772A

Titanium compounds, Composite materials

- NiTi and NiTi-TiC composites. II. Compressive mechanical properties. 183-191A
- NiTi and NiTi-TiC composites. III. Shape-memory recovery. 193-203A
- Formation of structural intermetallics by reactive metal penetration of titanium and nickel oxides and aluminates. 2100-2104A
- Investigation of the reaction zone between TiAl and molybdenum. 2285-2292A

Titanium compounds, Crystal growth

- Crystallization of amorphous phase in sputter-deposited Ti-Al alloy thin films. 2047-2050A

Titanium compounds, Mechanical properties

- Effect of creep strain on microstructural stability and creep resistance of a TiAl/Ti₃Al lamellar alloy. 127-134A
- Influence of temperature transients on the hot workability of a two-phase gamma titanium aluminide alloy. 1933-1950A
- High-temperature low-cycle fatigue of a gamma titanium aluminide alloy Ti-46Al-2Nb-2Cr. 2239-2251A
- High-temperature deformation processing of Ti-24Al-20Nb. 2593-2604A
- High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material. 3675-3681A
- Titanium compounds, Oxidation**
- High-temperature oxidation of Ti₃Al-based titanium aluminides in oxygen. 3993-4002A
- Effect of nitrogen on the oxidation behavior of Ti₃Al-based intermetallic alloys. 4003-4010A
- Titanium compounds, Phase transformations**
- NiTi and NiTi-TiC composites. IV. Neutron diffraction study of twinning and shape-memory recovery. 2820-2836A
- The effect of substrate constraint on the martensitic transformation of Ni-Ti thin films. 2858-2860A
- Titanium compounds, Powder technology**
- Mechanistic processes influencing shock chemistry in powder mixtures of the Ti-Si, Ti-Al, and Ti-B systems. 1761-1771A
- Pressure-assisted reactive synthesis of titanium aluminides from dense 50Al-50Ti elemental powder blends. 2130-2139A
- Titanium compounds, Reactions (chemical)**
- Thermodynamics of calcium and oxygen in molten titanium and titanium-aluminum alloy. 967-972B
- Titanium nitride, Coatings**
- Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Tool life, Coating effects**
- Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Tool steels, Coating**
- Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Topography**
- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier transformation. 2338-2346A

Toughness

- Failure characteristics of 6061/Al₂O₃/15_p and 2014/Al₂O₃/15_p composites as a function of loading rate. 3095-3107A
- Toughness, Composition effects**
- Mechanical properties of Ru-Ni-Al alloys. 1395-1400A
- Toughness, Heating effects**
- Effect of holding time in the (α - γ) temperature range on toughness of specially austempered ductile iron. 1979-1989A
- Toughness, Microstructural effects**
- Mechanical behavior and properties of mechanically alloyed aluminum alloys. 737-745A
- Toxicology**
- The use of blast furnace slag and derived materials in the vitrification of electric arc furnace dust. 379-384B
- Transgranular corrosion, Stress effects**
- Discussion of "a fully plastic microcracking model for transgranular stress corrosion cracking in planar slip materials" and reply. 819-821A
- Transgranular fracture**
- Microstructure and tensile behavior of nitrogen-alloyed, dual-phase stainless steels. 1845-1859A
- The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
- Transgranular fracture, Heating effects**
- A strain-based fracture model for stress corrosion cracking of low-alloy steels. 291-304A
- Transition metals, Alloying additive**
- Effect of alloying elements on martensitic transformation in the binary NiAl(β) phase alloys. 2445-2453A
- Transmission electron microscopy**
- Real time x-ray transmission microscopy of solidifying Al-In alloys. 801-808A
- Characterization of titanium thin films prepared by bias assisted magnetron sputtering. 1057-1060B
- Transmission electron microscopy study on the cross-sectional microstructure of an ion-nitriding layer. 1347-1352A
- The formation mechanism(s), morphology, and crystallography

- The relationship between microstructural and plastic instability in Al-4.0 wt.% Cu alloy. 2916-2922A
- A high-resolution transmission electron microscopy study of the precipitation process in a dilute Ti-N alloy. 2966-2977A
- Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al₃₃Ta₆₇ alloy powders. 3267-3278A
- High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. I. Plate interfaces and growth ledges. 3362-3370A
- High-resolution transmission electron microscopy investigation of the face-centered cubic/hexagonal close-packed martensite transformation in Co-31.8 wt.% Ni alloy. II. Plate intersections, extended defects, and nucleation mechanisms. 3371-3380A
- Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films. 3753-3759A
- Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels. 3773-3780A
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Elevated temperature deformation behavior of a dispersion-strengthened Al-Fe, V, Si alloy. 3913-3923A
- Hydrogen-induced cleavage fracture of Fe₃Al-based intermetallics. 3949-3956A
- The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy. 3983-3991A
- Microstructural features of friction welded MA 956 superalloy material. 4019-4029A
- Nonuniform distribution of carbonitride particles and its effect on prior austenite grain size in the simulated coarse-grained heat-affected zone of thermomechanical control-processed steels. 4031-4038A
- Martensitic transformations in NiMnAl β phase alloys. 4153-4162A
- Tribology**
- Ni₃Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
- Tribology, Radiation effects**
- Simultaneous plasma treatment for carburizing and carbonitriding using hollow cathode discharge. 401-405A
- Tundishes**
- Intermixing model of continuous casting during a grade transition. 617-632B
- Mathematical modeling of tundish operation and flow control to reduce transition slabs. 745-756B

Tungsten, Alloying elements

- The breakdown of single-crystal solidification in high refractory nickel-base alloys. 1081-1094A
- Constitutive behavior of tantalum and tantalum-tungsten alloys. 2994-3006A
- Tungsten, Powder technology**
- Theoretical modeling of densification during activated solid-state sintering. 441-450A
- Tungsten, Solubility**
- Solid-state contributions to densification during liquid-phase sintering. 901-909B
- Tungsten, Structural hardening**
- Van der Waals approximation for potassium bubbles in tungsten. 987-992B
- Tungsten base alloys, Powder technology**
- Solid-state contributions to densification during liquid-phase sintering. 901-909B
- The effect of Mo addition on the liquid-phase sintering of W heavy alloy. 3120-3125A
- Tungsten carbide, Synthesis**
- Synthesis of full-density nanocrystalline tungsten carbide by reduction of tungstic oxide at room temperature. 4210-4213A
- Turbine blades, Microstructure**
- Prediction of grain structures in various solidification processes. 695-705A
- Turbine blades, Service life**
- Creep lifetime prediction of oxide-dispersion-strengthened nickel-base superalloys: a micromechanically based approach. 3861-3870A
- Turbulence**
- Experimental study of splash generation in a flash smelting furnace. 633-646B
- A unified representation of the two-phase plume characteristics in gas-stirred ladle systems. 704-708B
- Twin roll casting**
- Quantitative characterization of the surface topography of rolled sheets by laser scanning microscopy and Fourier

- Twinning**
 NITI and NITI-TiC composites. II. Compressive mechanical properties. 183-191A
 An optical method for determining the surface orientation of crystals. 2057-2061A
- Twinning, Cooling effects**
 The role of grain corners in nucleation. 480-483A
- Twinning, Deformation effects**
 The x-ray diffraction study of deformation in the composite matrix of Al-Mg-Zn and SiC. 503-505A
- Twinning, Stress effects**
 Predicting the orientation-dependent stress-induced transformation and detwinning response of shape memory alloy single crystals. 269-279A
- Ultrasonic testing**
 Elastic moduli of titanium-hydrogen alloys in the temperature range 20°C to 1100°C. 3963-3970A
- Vacuum refining**
 Thermodynamics of phosphorus in molten silicon. 937-941B
- Vanadium, Alloying additive**
 The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys. 3424-3430A
- Vanadium, Alloying elements**
 Influence of microalloying on the corrosion resistance of steel in saturated calcium hydroxide. 1693-1699A
- Vanadium, Heat treatment**
 Improved oxidation resistance of group VB refractory metals by Al³⁺ ion implantation. 491-500B
- Vapor pressure**
 Vacuum evaporation of KCl-NaCl salts. I. Thermodynamic modeling of vapor pressures of solid and liquid solutions. 141-146B
- Vaporizing, Cooling effects**
 Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results. 433-443B
- Velocity**
 Increased ductility in high velocity electromagnetic ring expansion. 1837-1844A
- Vertical shaft furnaces**
 An extended two-dimensional mathematical model of vertical ring furnaces. 297-304B
- Video**
 Experimental study of splash generation in a flash smelting furnace. 633-646B
- Viscoplasticity, Cooling effects**
 Thermomechanics of the cooling stage in casting processes: three-dimensional finite element analysis and experimental validation. 81-99B
- Viscoplasticity, Deformation effects**
 Non-Schmid effects on the behavior of polycrystals, with applications to Ni₃Al. 81-99A
 Communication: Discussion of "Modeling of dynamic materials behavior. A critical evaluation of the dissipator power cocontent approach". 232-235A
- Viscosity**
 Water model experiment on the liquid flow behavior in a bottom blown bath with top layer. 35-41B
 Viscosity of superalloy 718 by the oscillating vessel technique. 698-701B
 Effect of grain refinement on the fluidity of two commercial Al-Si foundry alloys. 2305-2313A
- Viscosity, Composition effects**
 A statistical analysis of the effect of a mixture component on the rheology of alumina feedstocks. 399-408B
- Viscosity, Temperature effects**
 Prediction of liquid metal viscosities using an adjustable hard sphere radial distribution curve. 29-34B
- Vitrification**
 Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
- Void ratio, Deformation effects**
 Microstructural evolution and superplastic deformation behavior of fine grain 5083Al. 3827-3839A
- Voices**
 The measurement of hydrogen activities in molten copper using an oxide protonic conductor. 929-935B
 Thermal expansion of metals reinforced with ceramic particles and microcellular foams. 3700-3717A
- Voices, Radiation effects**
 Sputter-induced pits on (100) nickel surfaces. 981-993A
 Theory of nucleation with cluster loss and isolation: application
- Voices, Stress effects**
 The influence of stress triaxiality on the damage mechanisms in an equiaxed α/β Ti-6Al-4V alloy. 3043-3058A
- Warm working**
 Optimization of cold and warm workability in 304 stainless steel using instability maps. 119-126A
- Waste disposal**
 Oxidation-reduction equilibrium of Cu²⁺/Cu⁺ in binary alkaline sulfate melts. 385-392B
 Vacuum evaporation of KCl-NaCl salts. II. Vaporization-rate model and experimental results. 433-443B
 Preparation of glass-forming materials from granulated blast furnace slag. 801-807B
 Microstructure and phase identification in type 304 stainless steel-zirconium alloys. 2151-2159A
- Wastes**
 Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization. 1031-1044B
- Water**
 A water model study of the flow asymmetry inside a continuous slab casting mold. 757-764B
- Water cooling**
 The improved microstructures and properties of 7075 alloys produced by a water-cooling centrifugal casting method. 1951-1962A
- Water quenching**
 A process model for on-line quenching of aluminum extrusions. 501-508B
- Wear particles**
 Ni₃Al intermetallic particles as wear-resistant reinforcement for Al-base composites processed by powder metallurgy. 3259-3266A
- Wear rate**
 High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
- Wear rate, Coating effects**
 Active wear and failure mechanisms of titanium nitride-coated high speed steel and titanium nitride-coated cemented carbide tools when machining powder metallurgically made stainless steels. 2796-2808A
- Wear rate, Composition effects**
 Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed. 3513-3523A
- Wear resistance**
 Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites. 2653-2662A
 High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
 The wear behavior between hardfacing materials. 3639-3648A
 Wear and friction behavior of metal impregnated microporous carbon composites. 3727-3738A
- Wear resistance, Coating effects**
 Wear-resistant coatings produced by shock-wave compaction of powders. 2297-2304A
- Wear resistance, Composition effects**
 Wear behavior of aluminum-based metal matrix composites reinforced with a preform of aluminosilicate fiber. 2385-2389A
- Wear resistance, Heating effects**
 Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy. 809-818A
- Wear resistance, Microstructural effects**
 Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys. 3881-3891A
 Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites. 4171-4181A
 Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites. 4183-4191A
- Wear tests**
 High-temperature wear and deformation processes in metal matrix composites. 3135-3148A
- Weld cladding**
 Ballistic impact behavior of multilayered armor plates processed by hardfacing. 3335-3340A
 Solidification of an alloy 625 weld overlay. 3612-3620A
 The wear behavior between hardfacing materials. 3639-3648A
- Weld defects**
 Solidification of an alloy 625 weld overlay. 3612-3620A
- Weld deposited coatings, Crystal growth**
 Solidification of an alloy 625 weld overlay. 3612-3620A
- Weld deposited coatings, Mechanical properties**

Weld metal, Microstructure			
Structural stability of super duplex stainless weld metals and its dependence on tungsten and copper.	2196-2208A		
Welded joints, Heat treatment			
Effect of homogenization heat treatment on the microstructure and heat affected zone microfissuring in welded cast alloy 718.	785-790A		
Welded joints, Mechanical properties			
Effect of multiaxial stresses on creep damage of 316 stainless steel weldments.	891-900A		
Microstructures relevant to brittle fracture initiation at the heat-affected zone of weldment of a low carbon steel.	2574-2582A		
Forming of tailor-welded blanks.	2605-2616A		
Effect of postweld treatment on the fatigue crack growth rate of electron-beam-welded AISI 4130 steel.	3162-3169A		
Welded joints, Microstructure			
Microstructural features of friction welded MA 956 superalloy material.	4019-4029A		
Welded joints, Phase transformations			
Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation.	775-783A		
Welded joints, Phases (state of matter)			
Phase stability and atom probe field ion microscopy of type 308 CRE stainless steel weld metal.	763-774A		
Wetting, Temperature effects			
Variation of contact angles with temperature and time in the Al-Al ₂ O ₃ system.	51-55B		
Whisker composites, Mechanical properties			
Growth behavior of microstructurally short cracks in the 6061 aluminum alloy with and without 22 vol.% SiC whiskers.	2013-2021A		
Corrosive wear of SiC whisker- and particulate-reinforced 6061 aluminum alloy composites.	2653-2662A		
White iron, Casting			
Hydrogen effects on directional solidification of tellurium-doped cast irons.	496-498A		
White iron, Claddings			
Ballistic impact behavior of multilayered armor plates processed by hardfacing.	3335-3340A		
White iron, Coatings			
Correlation of microstructure and fracture toughness in high-chromium white iron hardfacing alloys.	3881-3891A		
White iron, Composite materials			
Influence of reinforcement volume fraction and size on the microstructure and abrasion wear resistance of hot isostatically pressed white iron matrix composites.	4171-4181A		
Influence of matrix structure on the abrasion wear resistance and toughness of a hot isostatically pressed white iron matrix composites.	4183-4191A		
White iron, Crystal growth			
Directional solidification of white cast iron.	2328-2337A		
Widmanstätten structure			
Dense CoAl-based alloys with improved ductility: solid-state synthesis and microstructure control.	2140-2150A		
Fracture characteristics, microstructure, and tissue reaction of Ti-5Al-2.5Fe for orthopedic surgery.	3925-3935A		
Workability			
High-temperature deformation and failure of an orthorhombic titanium aluminide sheet material.	3675-3681A		
X ray analysis			
Radioscopic visualization of isothermal solidification of eutectic Ga-In alloy.	688-689B		
X ray diffraction			
Interdiffusion kinetics in oxide powder mixture using high temperature x-ray diffraction technique.	318-322B		
Analysis of heat affected zone phase transformations using in situ spatially resolved x-ray diffraction with synchrotron radiation.	775-783A		
Characterization of titanium thin films prepared by bias assisted magnetron sputtering.	1057-1060B		
Lattice misfits in four binary Ni-base γ/γ' alloys at ambient and elevated temperatures.	2888-2896A		
Incipient chemical instabilities of nanophase Fe-Cu alloys prepared by mechanical alloying.	2934-2946A		
Thermally assisted and mechanically driven solid-state reactions for formation of amorphous Al ₃₃ Ta ₆₇ alloy powders.	3267-3278A		
Discussion of "Effects of tensile stress on microstructural change of eutectoid Zn-Al alloy" and authors' reply.	3330-3335A		
Effect of aging on shape memory behavior of Ti-51.3 at.% Ni thin films.	3753-3759A		
High-temperature oxidation of Ti ₃ Al-based titanium aluminides in oxygen.	3993-4002A		
Martensitic transformations in NiMnAl β phase alloys.	4153-4162A		
X ray microscopy			
Real time x-ray transmission microscopy of solidifying Al-In alloys.		801-808A	
Yield			
Preparation of fine copper powders from organic media by reaction with hydrogen under pressure. I. Experimental study.		577-584B	
Thermodynamics of phosphorus in molten silicon.		937-941B	
Yield strength			
Communication: On the in situ formation of TiC and Ti ₂ C reinforcements in combustion-assisted synthesis of titanium matrix composites.		237-240A	
A study of typical yields of metals.		731-736A	
An experimental and theoretical investigation of the rapid consolidation of continuously reinforced, metal-matrix composites.		1709-1720A	
Bauschinger effect in Haynes 230 alloy: influence of strain rate and temperature.		1739-1748A	
Deformation behavior of an Al-3.37 wt.% Li alloy.		2274-2284A	
The effects on fracture toughness of ductile-phase composition and morphology in Nb-Cr-Ti and Nb-Si in situ composites.		3007-3018A	
Plastic zone and pileup around large indentations.		3793-3800A	
Notch fracture in γ -titanium aluminides.		3903-3912A	
Yield strength, Alloying effects			
Effect of strain rate and temperature on the flow stress of β -phase titanium-hydrogen alloys.		1303-1312A	
Effect of phase composition and hydrogen level on the deformation behavior of titanium-hydrogen alloys.		1869-1876A	
Dynamic strain aging and hydrogen-induced softening in alpha titanium.		1877-1887A	
Yield strength, Composition effects			
Effect of manganese dispersoid on the fatigue crack propagation of Al-Zn-Mg alloys.		490-493A	
Yield strength, Cooling effects			
The quench sensitivity of cast Al-7 wt.% Si-0.4 wt.% Mg alloy.		3983-3991A	
Yield strength, Corrosion effects			
Effects of the alumina scale on the room-temperature tensile behavior of preoxidized MA 956.		3809-3816A	
Yield strength, Deformation effects			
Non-Schmid effects on the behavior of polycrystals, with applications to Ni ₃ Al.		81-99A	
Flow stress and microstructural evolution during hot working of alloy 22Cr-13Ni-5Mn-0.3N austenitic stainless steel.		1251-1266A	
Constitutive behavior of tantalum and tantalum-tungsten alloys.		2994-3008A	
Influence of plastic deformation upon the half-width of engineering metallic materials in hard state.		3662-3668A	
Yield strength, Healing effects			
Influence of long term annealing on tensile properties and fracture of near- α titanium alloy Ti-6Al-2.75Sn-4Zr-0.4Mo-0.45Si.		1700-1708A	
Low quench sensitivity of superplastic 8090 Al-Li thin sheets.		2923-2933A	
Hot deformation mechanisms of a solution-treated Al-Li-Cu-Mg-Zr alloy.		3478-3490A	
The plastic anisotropy of an Al-Li-Cu-Zr alloy extrusion in unidirectional deformation.		3503-3512A	
Yield strength, Impurity effects			
The effect of hydrogen on the fracture of alloy X-750.		101-110A	
Yield strength, Microstructural effects			
Pearlite in ultrahigh carbon steels: heat treatments and mechanical properties.		111-118A	
NiTi and NiTi-TiC composites. II. Compressive mechanical properties.		183-191A	
Subcritical crack growth at bimaterial interfaces. II. Microstructural effects on fracture resistance of metal/ceramic interfaces.		213-219A	
Microstructural aspects of the dissolution and melting of Al ₂ Cu phase in Al-Si alloys during solution heat treatment.		1785-1798A	
Theoretical calculation of the stress-strain behavior of dual-phase metals with randomly oriented spheroidal inclusions.		2359-2365A	
The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet.		3250-3258A	
Influence of interstitials on the mechanical properties of metallic materials.		3524-3529A	
The cracking mechanism of silicon particles in an A357 aluminum alloy.		3558-3568A	
Reinforcement shape effects on the fracture behavior and ductility of particulate-reinforced 6061-Al matrix composites.		3739-3746A	
The behavior of internal markers in Ti-6Al-4V deformed in superplastic tension.		3747-3748A	
Influence of titanium and carbon contents on the hydrogen trapping of microalloyed steels.		3773-3780A	
Yield strength, Stress effects			
Plastic anisotropy of sheets with continuously varying anisotropy parameters and flow stress.		317-326A	
Detecting stable crack onset at ductile-brittle transition in steels.		469-471A	

Effect of thermal cycling on the mechanical properties of 350 grade maraging steel. The Bauschinger effect in a SiC/Al composite.	757-761A 995-1001A
Yield strength, Temperature effects Observations of secondary carbide precipitation and its relation to high-temperature flow and fracture in HT-9 stainless steel. High-temperature wear and deformation processes in metal matrix composites. Manifestations of dynamic strain aging in soft-oriented NiAl single crystals. An analysis of the flow stress of a two-phase alloy system, Ti-6Al-4V.	467-469A 3135-3148A 3542-3557A 3957-3962A
Yttrium, Refining Thermodynamic properties of oxygen in yttrium-oxygen solid solutions.	839-845B
Zinc, Composite materials Analysis of damping in particle-reinforced superplastic zinc composites.	2565-2573A
Zinc, Extraction The mineralogical deportment of germanium in the Clarksville electrolytic zinc plant of Savage Zinc Inc. Application of centrifugal fields in fused salt electrowinning with a view to reducing electrolytic energy consumption. Eco-techno-economic synthesis of process routes for the production of zinc using combinatorial optimization.	567-576B 889-894B 1031-1044B
Zinc, Recovering A kinetic study of the reaction of zinc oxide with iron powder.	363-374B
Zinc, Ternary systems Thermodynamic investigations of the ternary Au-Sn-Zn system.	921-927B
Zinc base alloys, Casting The design of feed systems for thin-walled zinc high-pressure die castings.	115-118B
Zinc base alloys, Composite materials Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy.	809-818A
Zinc base alloys, Forming The use of microstructural gradients in hot gas-pressure forming of Zn-Al sheet.	3250-3258A
Zinc base alloys, Mechanical properties Effect of iron on ductility and cavitation in the superplastic An-22% Al eutectoid. Characterization of the wear response of a modified zinc-based alloy vis-à-vis a conventional zinc-based alloy and a bearing bronze at a high sliding speed.	863-872A 3513-3523A
Zinc base alloys, Melting The production of nickel-zinc alloys by powder injection.	780-787B

Zirconium compounds, Oxidation

Zinc base alloys, Microstructure The Rayleigh instability and the origin of rows of droplets in the monotectic microstructure of zinc-bismuth alloys.	2053-2057A
Zinc base alloys, Phase transformations Discussion of "Effects of tensile stress on microstructural change of eutectoid Zn-Al alloy" and authors' reply.	3330-3335A
Zinc base alloys, Powder technology Kinetics of phase evolution of Zn-Fe intermetallics.	2904-2910A
Zinc compounds, Powder technology Kinetics of phase evolution of Zn-Fe intermetallics.	2904-2910A
Zinc dust, Recovering A kinetic study of the reaction of zinc oxide with iron powder.	363-374B
Zircon, Composite materials Mechanical properties and 95°C aging characteristics of zircon reinforced Zn-4Al-3Cu alloy.	809-818A
Zirconium, Alloying additive Microstructure and phase identification in type 304 stainless steel-zirconium alloys. Elevated temperature compressive properties of zirconium-modified NiAl. Effects of alloy modification and thermomechanical processing on recrystallization of Al-Mg-Mn alloys. The effect of metallic elements on the crystallization behavior of amorphous Fe-Si-B alloys.	2151-2159A 2628-2641A 2947-2957A 3424-3430A
Zirconium, Diffusion Pressure dependence of anomalous diffusion of zirconium in β -titanium.	1807-1814A
Zirconium, Mechanical properties Influence of interstitials on the mechanical properties of metallic materials.	3524-3529A
Zirconium base alloys, Extrusion Microsegregation of oxygen in Zr-2.5Nb alloy materials.	431-440A
Zirconium base alloys, Forming Reply: Dynamic materials model. Basis and principles.	235-236A
Zirconium base alloys, Phases (state of matter) Microstructure and phase identification in type 304 stainless steel-zirconium alloys.	2151-2159A
Zirconium compounds, Composite materials A model for coupled growth of reaction layers in reactive brazing of ZrO ₂ -toughened Al ₂ O ₃ .	3630-3638A
Zirconium compounds, Oxidation Phase relations of a silicide/silica reaction couple at 2273K.	271-276B